

WORK VALUES
AND THE
JOB CHARACTERISTICS-JOB OUTCOME RELATIONSHIP

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Abstract

The importance and achievement of work values were found to be significant variables in the job characteristics-job outcome relationship when investigated with a sample of 117 correctional nurses. Data collected via mailed questionnaires were analyzed using Pearson correlation coefficients and stepwise multiple regression. The results indicated that the achievement of intrinsic work values was found to mediate the relationship between job characteristics and internal work motivation and satisfaction, adding considerable explained variance to each of the job outcomes. In addition, the importance of the same intrinsic work values moderated the overall relationship as well as the relationship between job characteristics and achievement of work values. The importance of work values did not, however, moderate the achievement of work values-job outcome relationship as predicted.

The practical implications for correctional administrators and nurses, as well as implications for further research were discussed.

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INTRODUCTION

Over the last decade, recruiting and retaining nurses have become issues of extreme importance to North American hospitals and other health care agencies employing nurses. A shortage of nurses has resulted in undesirable working conditions in many settings, and the role of the nurse has been narrowly restricted to that of task performance. This focus on tasks rather than the patient has significantly increased nurses' job dissatisfaction and disenchantment with the profession of nursing.

The dissatisfaction of nurses has resulted in increased turnover to health care facilities. Munro (1983) states that hospital nurses have more than three times the turnover rate of teachers and one and one-half times the turnover rate of social workers. Data from resignation interviews have indicated that nursing turnover could be reduced by 25 to 40 percent if the causes of dissatisfaction were eliminated (Weisman et al., 1980).

The turnover of nurses has resulted in significant costs to health care agencies. The cost of replacing one Registered Nurse in the United States in 1978 was estimated to be \$2,000, and that figure included only

orientation, training and processing costs. It did not include recruitment, non-productivity of replacement during orientation and initial work experience, overtime coverage by others, or termination processing costs. Nor did this estimate include the cost to the patient, as the quality of care would likely be reduced during the period of transition because of non-availability of replacements, and because of the learning time required for nurses to reach peak efficiency (Munro, 1983).

Nurses are not only leaving their current jobs to find other jobs in nursing, but a significant number are leaving nursing altogether. In Ontario, of a total of 101,704 nurses registered with the College of Nurses of Ontario, only 73,677 were employed in their nursing profession (Shultz, 1987). This shortage of nursing in Ontario has resulted in bed closures in several hospitals, with obvious implications for health care.

Not only are nurses leaving their profession, but young people are less likely to choose nursing as a profession given the current quality of work-life for nurses. Women have more options available in today's world, and the profession of nursing often does not compare favourably with other professions available.

This situation in nursing obviously necessitates the attention of administrators to the job satisfaction

of nurses. Not only will increased job satisfaction contribute to the recruitment and retention of nurses in the short term, but it will influence people to choose nursing as a profession in the long term, as well. In addition, job satisfaction is an important motivational factor, and will also influence productivity in the job. Although an increase in job satisfaction does not necessarily result in a corresponding increase in work productivity, there is still reason to believe that work attitudes and work behaviours are related in some manner (Pinder, 1984).

The recruitment and retention of nurses working in correctional facilities pose similar problems. These problems are accentuated, however, because of a variety of unique difficulties for nurses working in the correctional system.¹

Correctional nursing is a relatively new frontier and, as such, little has been recorded about this unique field of nursing. Unfortunately, for many of those who do know that correctional nursing exists, the image of this specialty is poor. The public in general and nurses in particular are largely unaware of the responsibilities of nurses in corrections, the potential for role development, and the challenge of this particular career. Instead, nurses working in the

correctional system are often perceived as not being particularly skilled, and as being unable to find jobs elsewhere. This poor image of correctional nursing obviously impedes the recruitment of nurses into the correctional system.

Contrary to this public perception of the limited skill level of correctional nurses, however, a variety of special skills and qualities are required by nurses in corrections in order to qualify them to work in this field. As the lone health care provider, the nurse must be able to work independently, and make knowledgeable decisions. The correctional nurse requires excellent psychological and physical assessment skills to deal with the highly manipulative offender, and a broad nursing background with experience in psychiatric and emergency nursing is preferred. Because correctional nurses need these specific skills and experience in addition to certain personal qualities in order to cope with some of the unique problems in corrections, the difficulties in recruiting for this specialty are further accentuated.

Nursing in corrections can be particularly difficult because of the nature of the clientele. Dighton (1986) describes nurses' experience with the "difficult patient", and describes a correctional

facility as being the equivalent of an entire hospital of "difficult patients". Inmates are often emotionally immature, and have led a life resulting in a value system much different from that of the nursing staff. Although correctional facilities may have many inmates with long neglected and multiple health care problems, these inmates may not be particularly interested in improving their health status, and this results in a conflict with nursing goals. Related to this is the often limited efficacy of nursing intervention in the correctional system. Inmates are often not motivated to learn new skills, or to make changes to or to sustain, the interventions required for improved health status.

The role in which the nurse functions in the correctional system can be a problem as well, contributing to the difficulty in the recruitment and retention of nurses. The problems with the role are related to the large number of inmates and a proportionately small number of nursing staff, and to working in an organization where the primary goal is security and goals of health care are secondary.

The employment of nurses in correctional facilities has only happened relatively recently. Previously, correctional officers trained in first aid had provided the essential "nursing" services of emergency care and

dispensing of medicines. The numbers of nursing staff have gradually increased over the years, but contending with an administrative attitude that correctional facilities functioned quite nicely without nurses can still impede approval of hiring the required number of nursing staff. Budgetary limitations existent in the overall correctional system are experienced even more severely in the health care system within corrections.

The resulting limited number of nursing staff combined with the rapid turnover of a large number of inmates can severely limit the nurses' role in many correctional facilities. While health education, health promotion, and disease prevention should be provided and would be extremely beneficial to this needy population, the level of resources tends to allow only for providing acute care. Nursing in most institutions has difficulty moving away from a very task-oriented, traditional role where the primary functions tend to be assisting the physician, administering medication, and providing emergency treatment and first aid. Nursing will continue to have difficulty in moving to a potentially expanded role where both inmates and nurses will benefit, with the current level of resources, and for as long as there is a lack of administrative understanding and acceptance of the need for an expanded nursing role.

The nurses' role can also be limited by a health care/security conflict. Because the health care staff and correctional staff have diverse objectives, major conflicts can occur between the two groups. The health goals often need to be compromised in the interest of security goals, which, except in life-death situations, take priority. Nurses are often viewed as not being part of the system, as being too "soft" on inmates. Nurses are sometimes viewed, as well, as females in a male world, who don't belong in an environment where riot, attack, and hostage taking are possibilities (Murtha, 1975).

Nurses in the correctional system function in a peripheral role, contrary to the role of a nurse in a health care setting where nurses are the primary workers. Not only is the role of correctional nurses peripheral, but their location is also outside of the inmate living units, in contrast to a hospital setting. This often makes it most difficult to implement the nursing process, as nursing is impeded by physical constraints and security barriers.

In summary, then, the poor image of correctional nursing, combined with the specific nursing qualifications required in the correctional system accentuate difficulties in recruiting nurses for this

specialty. The problems of working with a particularly difficult clientele and having to function in a limited role contribute to nurses' dissatisfaction and add to the difficulty in the retention of nurses in the correctional system.

If correctional administrators want to continue to be able to recruit and retain nurses in order to maintain at least essential health services, they must pay attention to the job satisfaction of nurses. As stated earlier, job satisfaction will not only significantly influence the recruitment and retention of nursing staff, but job satisfaction is an important motivational factor, and influences productivity in the job.

What can correctional administrators do to increase nurses' job satisfaction? There are certain factors which are more difficult to influence, such as the nature of the clientele and the health care/security conflict. Other factors, however, can be influenced. For example, specific programs such as participation in job fairs and public relations material can be developed to improve the image of correctional nursing. Any plan for an improved correctional nursing image will be hampered, however, if correctional nurses themselves are not feeling good about what they are doing, and help to

project that positive image. The limited role of the correctional nurse may be one important aspect of the job that can be altered to improve nurses' job satisfaction as well as the image they project. The role nurses function in tends to be traditional and task-oriented in most correctional facilities, underutilizing the skills and abilities of nurses, and minimizing the potential benefits of an expanded role to the nurses, as well as to the inmates. Can this role then be expanded or enriched to improve correctional nurses' job satisfaction and related work outcomes?

The design of the job has long been of interest to managers and researchers primarily in industrial settings in trying to determine its impact on employee outcomes such as job satisfaction, motivation and performance.

In the early twentieth century during the Scientific Management period, much effort went in to simplifying, standardizing, specializing and routinizing jobs in order that work could be carried out more efficiently and with less skilled employees. It was believed that management could increase control over production and subsequently increase organizational profits. It was demonstrated, however, in later years, that work simplification resulted in workers feeling

unchallenged and dissatisfied. There was increased absenteeism and turnover, and difficulty in effectively managing employees who perceived their jobs as monotonous. In addition, the anticipated increase in profitability did not occur (Hackman & Lawler, 1971). In response to these problems with simplified work, a number of researchers began experimenting with vertical and horizontal expansion of jobs. It was believed that employees would be challenged and more satisfied if the scope of jobs were increased to allow for satisfaction of intrinsic needs.

It then became apparent, however, that there was a wide variety of individual responses to changes in job characteristics. Not all employees responded positively to job enlargement or job enrichment. Researchers began to look at individual differences moderating the job scope-job response relationship. Various moderators were investigated, but the measure that appeared to moderate most consistently was growth need strength.

Hackman and Oldham (1980) developed the Job Characteristics Approach which is the most popular current perspective on job design (Pinder, 1984). It proposes that the design of the job can lead to three critical psychological states which result in certain job outcomes, and builds in a measure of growth need

strength which appears to moderate at two points in the model.

Although research on job design in nursing has been limited, it has provided some support that certain characteristics built into the job will result in positive work outcomes for nurses. Several nursing studies have indicated that intrinsic satisfaction resulting from the characteristics of the job has been significant in contributing to job satisfaction, motivation and/or performance (Joiner et al., 1982; Everly & Falcione, 1976; Munro, 1983; Weisman et al., 1980; Roedel & Nystrom, 1988). Specific factors that have been demonstrated to predict job satisfaction for nurses are autonomy, responsibility, use of skills and abilities, and opportunity for professional growth (Weisman et al., 1980; Munro, 1983; Everly & Falcione, 1976; Godfrey, 1978).

Given that certain work outcomes have been demonstrated to be related to the satisfaction of intrinsic or psychological needs, one wonders whether these work outcomes would also be related to the achievement of certain intrinsic work values. Can a job be designed so that individuals can achieve certain work values resulting in positive work outcomes? Given that research has indicated that not all individuals respond

positively to enriched jobs and the opportunity for satisfaction of intrinsic needs, could the importance of certain intrinsic work values to individuals provide some indication as to whether or not they might respond to enriched jobs?

The focus of this study is correctional nursing, where the importance of work outcomes and in particular job satisfaction has been described. Correctional nursing has also been described as an area where many nurses tend to function in a traditional, limited role, and where the potential benefits of an expanded or enriched role have not been explored.

The purpose of this study then is to answer the following questions:

1. Do correctional nurses working in more complex (enriched) jobs experience the achievement of certain work values resulting in greater job satisfaction and internal work motivation?
2. Does the importance of certain work values to correctional nurses strengthen the relationship between job complexity (enrichment) and job satisfaction and internal work motivation?

Overview of Study

The study is divided into four chapters. The first chapter is a review of the relevant literature. Theory

and research related to internal work motivation and job satisfaction are reviewed, followed by a description of the job characteristics approach and research studies based on it. The literature review concludes with a section on alternatives to the job characteristics approach. The use of work values in the job characteristics-job outcome relationship is looked at in each section of the literature review.

Chapter two presents the procedures and methodology used in the study. A quantitative correlational survey was administered to the total population of nurses working for the Ministry of Correctional Services of Ontario.

Chapter three presents the findings. Data analysis indicated considerable support for the hypotheses as predicted.

The fourth chapter discusses the results, and the implications of the study for future research and for nurses and administrators working in the correctional system. Finally, this chapter is followed by a summary and conclusion of the study.

Footnotes

1. Correctional nursing refers to the provision of nursing services in correctional facilities. Correctional facilities in Ontario include jails, detention centres, and correctional centres under the jurisdiction of the provincial government, and penitentiaries under the jurisdiction of the federal government. Nurses provide services in all correctional facilities.

CHAPTER ONE

Review of the Literature

Introduction

The focus of this study is to investigate job design and the work outcomes of job satisfaction and internal work motivation in a correctional nursing setting. The relationship of work values to the job characteristics-job outcome relationship will also be explored.

A review of the literature was done to examine research in these areas. The sources of literature review included computer searches in Medline, Psychological Abstracts, and Eric; cumulative indexes in nursing; reviews of research in organizational behaviour and nursing; and references cited in publications between 1970 and 1988.

Extensive research material was found on job design in industry and technology, but relatively little in other settings. Material on job design in nursing settings, which was rather limited, has been cited in this review. There was no research on job design in correctional nursing settings.

The first part of this chapter consists of a review of the theory and research on work motivation, followed

by a section on work attitudes and specifically job satisfaction. The job characteristics approach will be discussed next, followed by a review of alternatives to the job characteristics approach. The final portion of the chapter contains a summary of the theory and research, and an outline of the hypotheses that have been developed as a result of the review.

Work Motivation

Motivation is described by Pinder (1984) as having as many definitions as there have been thinkers who have considered the nature of human behaviour. He draws heavily upon a number of previous writers and defines work motivation as:

a set of energetic forces that originate both within as well as beyond an individual's being, to initiate work-related behaviour, and to determine its form, direction, intensity and duration. (p.8)

Pinder notes that it is a hypothetical construct, and is not the same thing as effort or performance. This definition is intended to apply to work behaviours, but in order to understand motivation generally, it is helpful to look at general theories of motivation and apply them to work settings. This section will review Maslow's theory, Alderfer's E.R.G. theory, achievement

motivation, and will conclude with a discussion of internal work motivation.

Maslow's theory. Maslow's (1968) theory holds that man has five basic categories of needs which account for a large proportion of human behaviours. The categories consist of physiological needs including water, air, food, etc.; safety needs, including freedom from harm as well as economic security; love needs; esteem needs of two types: desires for strength, achievement, adequacy, mastery, competence, independence, freedom, and confidence in facing the world, and needs for the esteem of others with desires for recognition, praise, dominance, glory, and the attention of other people; and finally, the need for self-actualization which consists of a requirement for individuals to fulfill their potentialities, or to become that which they are capable of becoming.

The theory also holds that these needs are arranged in a hierarchy of prepotency or dominance, with the physiological needs being the most prepotent and the other needs decreasing in prepotence in the order described above. The less prepotent needs or those higher in the hierarchy are referred to as the higher order needs.

As the more prepotent needs become relatively satisfied, the less prepotent needs become increasingly more important for causing behaviour. Note that Maslow does not claim that the more prepotent needs have to be fully satisfied before the less prepotent ones operate, but states that the more prepotent needs will always be relatively more satisfied than the less prepotent ones. Maslow also recognized that there are individual exceptions to his theory, such as the person who would give up everything for the sake of his ideals. Although Maslow's theory has been interpreted as meaning that only one need state is operating at a given time, and that once fulfilled, that need state will be completed and the next need state will come into force, Maslow saw behaviour as tending to be a consequence of the simultaneous functioning of more than one, or several needs. It was the relative deprivation or satisfaction and the relative influence of needs that determined behaviour.

An exception to the needs decreasing in importance once satisfied is that of the need of self-actualization. The satisfaction of self-actualization needs tends to increase their importance. It is also noteworthy that self-actualization needs express themselves in different behaviours in different people.

Locke (1969) is critical of Maslow's theory. He claims that there is no proof of needs and Maslow's categorization of needs is somewhat confusing. Locke uses the lack of a clear definition for self-actualization as an example of the unintelligibility of the theory. He feels that Maslow confuses needs and values and is inconsistent about whether his theory is a theory of actions or desires. Locke also contends that Maslow's statement that behaviour is determined by several needs simultaneously is contradictory to the idea of need satisfaction occurring in a fixed hierarchial order. Locke concludes by arguing that it is man's values rather than needs which dominate his thoughts and actions.

Although Maslow's theory has not been confirmed by many studies, it remains popular among managers and students of organizational behaviour. Pinder (1984) questions whether the theory is too complex to operationalize, and whether it can ever be determined how valid the theory or parts of it are.

Alderfer's E.R.G. theory. Alderfer (1972) has proposed an alternative to Maslow's theory, with three need categories consisting of existence, relatedness and growth needs. His theory concerns itself with how satisfaction of certain needs influences desires of

other needs. Existence needs correspond to Maslow's physiological needs, as well as those security needs related to physical security. The substances required to meet these needs are normally concrete and often scarce. Relatedness needs are similar to Maslow's love needs and would also include Maslow's interpersonal security needs and the need for esteem from others. Alderfer defines these needs as including all the needs which involve relationships with significant other people. Growth needs include all the needs which involve an individual making creative or productive effects on himself and the environment. Growth needs are satisfied when a person utilizes his capacities fully, and may require him to develop additional capacities. In Pinder's (1984) words, growth needs consist of desires to interact successfully with one's environment--to investigate it, explore it, and master it.

Alderfer sees these needs as being innate, rather than learned, although learning can increase their strength. He holds that all three sets of needs are active in all human beings and does not require that a person be satisfied at one level in order to move up to another level. Alderfer refers to a frustration hypothesis, which predicts that a specific need in any

category not being satisfied will result in the specific desire being heightened; a frustration-regression, where the tendency is for persons to desire more concrete ends as a consequence of being unable to obtain more differentiated, less concrete ends; and a satisfaction progression, where a person has more energy available to deal with less concrete, more personal, and more uncertain aspects of living as he fulfills more concrete aspects of his desires.

Limited research has been done on Alderfer's E.R.G. model, but some support exists for the empirical integrity of need categories and for its major propositions (Wanous & Zwany, 1977). The E.R.G. model reduces the need categories from five to three and as a result is more parsimonious than Maslow's theory. In addition, its categories, with the exception of the growth category which remains somewhat abstract, are more clearly defined than Maslow's. Because, as well, its measures have shown to be reliable and valid, Hoy and Miskel (1982) conclude that Alderfer's E.R.G. model provides a more refined perspective than does Maslow's theory.

Achievement Motivation. Related to Maslow's self-actualization needs and Alderfer's growth needs is achievement motivation. Achievement motivation was

defined by Henry Murray (1938) as a need to accomplish something difficult; to master, manipulate or organize physical objects, human beings or ideas; to overcome obstacles and obtain a high standard; to excel oneself; to rival and surpass others; and to increase self-regard by the successful exercise of talent (Pinder, 1984). Although not identical, the concepts of achievement motivation and higher-order needs and growth needs are quite similar, and converge on the types of behaviour they instigate.

David McClelland (1961) has extensively studied the need for achievement and believes that it is a need learned when opportunities for competing with standards of excellence become associated with positive outcomes. He feels that childhood rearing practices encourage the development of this need, but that, as well, adults can be trained to develop the need, although to date this has been demonstrated for males only. Achievement motivated people prefer tasks of moderate difficulty; prefer tasks for which successful performance depends upon their own efforts; and demand feedback and knowledge about their successes and failures more so than others (Pinder, 1984).

The moderating effects of need for achievement between job scope and outcome relationships were looked

at by Steers and Spencer (1977). Using a sample of 135 managers in various departments, they found that the relationship between increased job scope and organizational commitment was not moderated by need for achievement, but that it did moderate the relationship between increased job scope and job performance. Abdel-Halim (1979) argues that the need for achievement would not moderate the job scope-organizational commitment relationship in this study, as the need for achievement would directly correlate with organizational commitment, and consequently reduce the likelihood that it would also act as a moderator. He suggests that other non job involvement-type outcomes such as job satisfaction are more likely to show moderator effects. Other outcomes were not examined in the Steers and Spencer (1977) study, but it was felt that need for achievement was a useful variable in that it specifically focused on the nature of the task and was more specific than growth need strength which has been used frequently in other research. Steers and Spencer recommend that need for achievement be considered in future research as an important individual difference variable.

Stone et al. (1977) looked at the effects of the need for achievement as one measure of higher order need strength on the relationship between job scope and

satisfaction with the work itself with a large heterogeneous sample. Moderated regression analyses showed that the moderating effect of need for achievement was statistically significant but of negligible size. Subgroup analyses, however, showed that the correlation between job scope and satisfaction for the high need for achievement sub-sample was substantially lower than the same correlations for the low and middle sub-samples. Stone et al. had also looked at the need for autonomy, and found that it had no moderating effects on the job scope and job satisfaction relationship. In comparing these results with those of researchers exploring the moderating effect of growth need strength, Stone et al. questioned whether higher order needs as measured by the growth need strength scale of the Job Diagnostic Survey had any relationship to higher order needs as measured by personality measures in this study, and suggested further research in this area. Although Stone et al. questioned the use of need for achievement as a moderator based on their results, they felt it had significant utility as a predictor of job satisfaction.

Internal work motivation. Work motivation results from energetic forces originating both within as well as beyond our individual's being. The distinction can be

made, then, between internal work motivation and external work motivation. Hackman and Oldham (1980) describe internal work motivation as occurring when feelings are closely tied to how well a person performs on the job. When a person performs well, then that person is self-rewarded which serves as an incentive for continuing to do well. That, combined with the negative outcomes stemming from poor performance, result in a self-perpetuating cycle of positive work motivation powered by self-generated, as opposed to external rewards, for good work.

Pinder (1984) equates internal work motivation to intrinsic motivation. The various definitions of intrinsic motivation reviewed by him imply that this motivational force which results in behaviour that is its own incentive, originates from Maslow's (1968) higher order needs or Alderfer's (1972) growth needs. Pinder also distinguishes between intrinsic and extrinsic job outcomes. Intrinsic outcomes relate to the satisfaction or frustration of higher order or growth needs, including such feelings as accomplishment or self-esteem.

Deci (1975) believes that there are two types of intrinsically motivated behaviours consisting of those which intend to find or create challenge and those which

intend to conquer it. A person engages in these behaviours in order to feel competent and self-arousing which Deci believes is an innate need among humans. Behaviours will vary among individuals as to how this need is satisfied, and Deci sees self-actualization and need for achievement as manifestations of the need for competence and self-determination.

The above review has looked at needs and how needs affect motivation. Needs are different from values. According to Locke (1976), all men have the same basic innate needs. Values, however, are acquired. Values are what men consciously or subconsciously desire or want, and consequently, may differ from individual to individual. It is the function of values to direct actions to satisfy needs, and it is values that determine man's actual choices and emotional reactions.

The values of doing meaningful work, using ability and knowledge, contributing to society, having influence over work, having responsibility, independence, and a sense of achievement, can be seen to be related to both Maslow's higher order needs and Alderfer's growth needs. The self-actualization needs and growth needs are met by individuals fulfilling their potentials; becoming all they are capable of becoming; and utilizing their capacities fully. Since values are what direct man's

actions to satisfy his needs and determine man's actual behaviour, the importance of these values may actually be a closer indicator of whether or not, how, or how much man goes about fulfilling his higher order or growth needs. The importance of these values would also be related to how much of a need an individual has to feel competent and self-arousing, which Deci (1975) says results in intrinsically motivated behaviour.

The contents of work value items were analyzed and grouped into domains by Elizur (1984). The results of that study indicated that values could be organized into the categories of rewards, affective, and cognitive values. The cognitive values included the values identified above (i.e., the values of meaningful work, use of ability, contribution to society, influence over work, responsibility, independence and achievement), as well as the values of status, advancement, interest, influence in the organization, and working for a company of which one is proud. The domains of rewards, affective and cognitive values correspond very closely to Alderfer's (1972) existence, relatedness and growth need states, and lend support to the linking of these values to Alderfer's growth needs and to Maslow's (1968) higher order needs.

In conclusion, the values identified correspond well to Maslow's and Alderfer's higher order and growth needs, and may be good indicators of how or whether or not individuals fulfill these needs, and whether or not individuals are likely to experience internal work motivation when other sufficient conditions exist.

Job Attitudes--Job Satisfaction

Various work outcomes or job attitudes have been investigated in relation to job design, but one of the most frequently investigated outcomes, and the primary focus of the discussion in this section, is that of job satisfaction. Job satisfaction generally has been very widely researched. Locke (1976) estimated conservatively that over thirty-three hundred research projects had been conducted and reported on job satisfaction during the preceding twenty-five years. Although it is no longer assumed that increasing job satisfaction will result in an increase in work productivity, there is still some basis for believing attitudes and behaviours are related to each other in some circumstances and/or in some manner. Research on job satisfaction continues for this reason, and because of the fact that improving employee job satisfaction is a goal in its own right; because improved satisfaction

may be related to decreased withdrawal behaviours including absenteeism, turnover and psychological withdrawal; and because understanding of job satisfaction may benefit the greater scientific concern for understanding attitudes in general (Pinder, 1984).

This section will look at theory and research on work attitudes, and in particular on job satisfaction. Herzberg's theory, the Porter/Lawler model, Locke's work on values and related research, and research on individual differences in the job characteristic-job satisfaction relationship will be discussed.

Herzberg's theory. Herzberg's (1959, 1966) theory represents a content theory approach to job satisfaction, and specifies that certain features need to be present in the job in order to motivate and result in job satisfaction. Herzberg and his colleagues first gathered data from a sample of 200 engineers and accountants in 1957, to test a two-factor concept which was hypothesized after reviewing hundreds of studies on the causes, consequences and correlates of job satisfaction. This two-factor concept was based on the observation that the factors causing positive attitudes towards one's job were different from the factors causing negative job attitudes. Herzberg et al. (1959) hypothesized that job satisfaction and job

dissatisfaction were independent of each other and not opposites as previously assumed.

Herzberg asked his sample to describe a time when they felt especially satisfied and a time when they felt especially dissatisfied with their job. These "critical incidents" were classified into categories by grouping together those that seemed similar, and recording the number of incidents within each category. The researchers found that a set of factors appeared more frequently in stories of positive job attitudes than in stories of negative job attitudes, and that, similarly, there were factors that appeared more frequently in stories of negative job attitudes. The factors relating to positive job attitudes, Herzberg called motivators. Those relating to negative attitudes, he called hygiene factors. The motivators appeared to be related to the work itself and were such factors as achievement, recognition, interesting or challenging work, advancement and growth, and responsibility. Not only did these factors appear to go hand in hand with job satisfaction, but they were relatively longer lasting in effect; they tended to be related to the personal relationship between the worker and the job; and they tended to cause feelings of growth and personal development.

Other factors which tended to be related to the context of the work were more often associated with dissatisfaction. These factors included company policy and administration, supervision, working conditions, and relationships with peers. These hygiene factors tended to be associated with shorter lasting job experiences, and were explained as resulting in dissatisfaction because their absence tended to cause feelings of being unfairly treated. Herzberg also classified salary as a hygiene factor, because although it was mentioned in both stories of job satisfaction and job dissatisfaction, it related more to long-term negative attitude shifts than to long-term positive shifts.

Herzberg later expanded his theory to incorporate theory on fulfilling man's needs (Herzberg, 1966). Herzberg argued that human beings had physical and psychological needs, and that these two types of needs operated in different ways. Physical needs resulted in pain-avoidance behaviour and when frustrated produced discomfort, but when fulfilled produced not pleasure, but only relief. Psychological needs would be met when there was psychological growth and would be expressed in attempts by people to become all they were capable of becoming, by exploring and conquering challenges in the environment. These growth needs would bring pleasure

when satisfied, but would not result in displeasure when not satisfied. Hygiene factors then would operate to fulfill or frustrate man's physical needs, but again, would not result in job satisfaction. Motivators would fulfill or frustrate man's growth needs, and if built into the job could motivate the employee and result in positive job attitudes.

The results of research into Herzberg's theory have been mixed (Pinder, 1984). One of the difficulties in testing the theory is that it has not been consistently stated by Herzberg, with as many as five interpretations of the two-factor notion having been tested. A significant criticism of Herzberg's theory is that the results, as well as the theory itself, are explained primarily by the methods used to collect and gather the data. Herzberg's method has primarily been the only one used that consistently replicates the original findings (Locke, 1976). Proponents of the two-factor theory, however, claimed that it was unfairly tested, so that conclusions about its invalidity were not well founded (Grigaliunas & Weiner, 1974). These authors believe that it may be impossible to test the theory fairly. Pinder (1984) supports this to some extent, in a general statement that some theories may be more valid than scientists are able to demonstrate, because of

difficulties inherent in operationalizing them for testing.

It has been argued that the story telling technique used tended to cause those being interviewed to link instances of satisfaction to their own accomplishments, and to link instances of dissatisfaction to factors that were somewhat outside of their control. Vroom (1964) observes that this might be an artifact of defensiveness on the part of the employees, such that they take credit for satisfying events that occur and blame others for dissatisfying events, in order to avoid any threat to their self-image.

Other criticisms of Herzberg's theory have been described by Locke (1976). He criticizes Herzberg's view of man's nature as a mind-body dichotomy, with each part operating according to opposite principles and unrelated to each other. Locke contends that man's mind indeed has very much to do with his physical needs.

Locke is also critical of the view that psychological and physical needs cause affect in only one direction, and states that the tension-reduction view of motivation has been thoroughly discredited. He is critical of the parallel between man's needs and the motivator and hygiene factors, noting that motivator factors may involve physical as well as psychological

needs, and that similarly, hygiene factors may involve psychological as well as physical needs.

Locke also cites numerous logical inconsistencies in Herzberg's incident classification system, and criticizes results based entirely on frequency data without considering the intensity of such events. Finally, Locke criticizes Herzberg's minimization or denial of individual differences among employees affecting satisfaction and dissatisfaction.

Several nursing researchers have used Herzberg's theory to determine what factors contribute to job satisfaction for nurses. Everly and Falcione (1976) factor analyzed eighteen items into four factors including relationship orientation, internal work rewards, external work rewards, and administrative policies, listed in descending order for the amount of variance of job satisfaction. They concluded that the traditional intrinsic/extrinsic dichotomy did not apply as nurses perceived their jobs in a more complex fashion. Support was found for the motivator aspect of Herzberg's theory, but not for the hygiene aspect in a study by Munro (1982), in which responsibility and challenge followed by working conditions were the strongest predictors for job satisfaction in a sample of nurses.

Nursing researchers have also used Herzberg's theory to look at job satisfaction and dissatisfaction with specific samples such as new graduate nurses and former nurses. Cronin-Stubbs (1977) sampled new graduate nurses and found that this group identified different satisfying and dissatisfying factors than did other nurses. In looking at why nurses left nursing, Sigardson (1982) found that both motivator and hygiene factors influenced nurses' decisions to leave.

In total, there has been considerable research on Herzberg's theory, and as stated earlier, the results have been mixed. Although his theory has been severely criticized, Herzberg certainly has made a significant contribution to our knowledge about the nature of job satisfaction. This contribution comes from Herzberg's stressing psychological growth which stems from the work itself, as being important for job satisfaction. There is certainly support for building in many of these factors to enrich jobs to make them more motivating and satisfying. The two-factor aspect of the theory, however, is not really necessary, and according to Locke (1976) is indefensible, both logically and empirically. In order to motivate and improve satisfaction, one should be concerned about building opportunities for achievement, recognition, interesting or challenging

work, advancement and growth, and responsibility, into the job. One cannot assume, however, that the provision of certain hygiene factors in the work place might not as well result in increased satisfaction and motivation.

Obviously, one way to determine whether these opportunities are present in the job is to ask job holders whether or not they exist. The values of sense of achievement, contribution to society, influence over work, responsibility, meaningful work, independence in work, and use of abilities are certainly related to growth needs which, if fulfilled, should act as motivators. These values are specifically related to several of Herzberg's specified motivators, and could be measured by asking job holders how much of each of these values is achieved in their job. In measuring the achievement of these values then, one has an indication of opportunities for growth need fulfillment, and subsequent satisfaction and motivation.

Porter/Lawler model. The Porter/Lawler model is a process model of job satisfaction which was developed to explain the relationship of satisfaction and performance based on the expectancy theory of motivation.

The expectancy theory was originally popularized by Victor Vroom (1964) and is also called the valence-instrumentality-expectancy (V.I.E.) theory. The

expectancy theory is based on two basic assumptions. The first is that people subjectively evaluate the expected value of outcomes or personal payoffs resulting from their actions, and then choose how to behave. The second is that forces in the individual and environment combine to determine behaviour. Individual values and attitudes, for example, interact with environmental components to influence behaviour.

Expectancy theory builds on the concepts of valence, instrumentality and expectancy. Valence is the perceived positive or negative value or worth that an employee ascribes to potential outcomes, rewards or incentives for working in an organization. What is important here is that it is the level of satisfaction the person expected to receive rather than the real value the person actually derives. Instrumentality refers to the perceived probability that an incentive with a valence will be forthcoming after a given level of performance, or the probability belief linking one outcome to another outcome. Expectancy refers to the subjective probability that a given effort will yield a specified performance level.

Motivation to behave in a certain way should be greatest when the behaviour will lead to rewards, when these outcomes have high positive personal values, and

when the ability exists to perform at the desired level. The individual decides how to behave in the way that appears to have the best chance of producing desired rewards.

Porter and Lawler's (1968) theory suggests that employee effort is determined by the value the individual places on certain outcomes, and the degree to which he believes effort will lead to attainment of these rewards. Effort will result in performance only if the individual has the ability to do the job and has a clear understanding of just what his job consists of. Performance may result in rewards including both intrinsic and extrinsic rewards. Intrinsic rewards would be more closely connected with performance than extrinsic rewards. This is because intrinsic rewards result from the performance itself, while extrinsic rewards depend on outside sources to recognize that performance has occurred, and to consequently administer rewards. The level of performance that an individual believes he has attained will affect his perceived equity of the rewards. Satisfaction is defined as the extent to which rewards actually received compare to the perceived equitable level of rewards. Satisfaction acts via a feedback loop to value of rewards to determine the value the individual places on the rewards in question

in the future. Another feedback loop occurs following performance back to perceived effort-reward probability, suggesting that the strength of the person's belief that effort will result in rewards is determined as well through experience (See Figure 1).

The model is a dynamic model as reflected by the feedback loops and helps to predict why some employees are more productive than others, why some are more satisfied than others, and when there might be a relationship between employee performance and attitudes.

Although considerable research has been done on this model, again problems with the research make it difficult to conclude on its validity (Campbell & Pritchard, 1976). A major problem is the tendency to test the theory as if it were intended to make behavioural and attitudinal predictions across individuals as opposed to within individuals. A major proportion of studies have computed expected levels of motivational force for a number of people and correlated these scores against other behavioural or attitudinal ratings. What the theory predicts, however, is how an individual will choose from behavioural alternatives to select an alternative which he perceives will maximize his overall expected utility. Research has been primarily between individuals as opposed to within

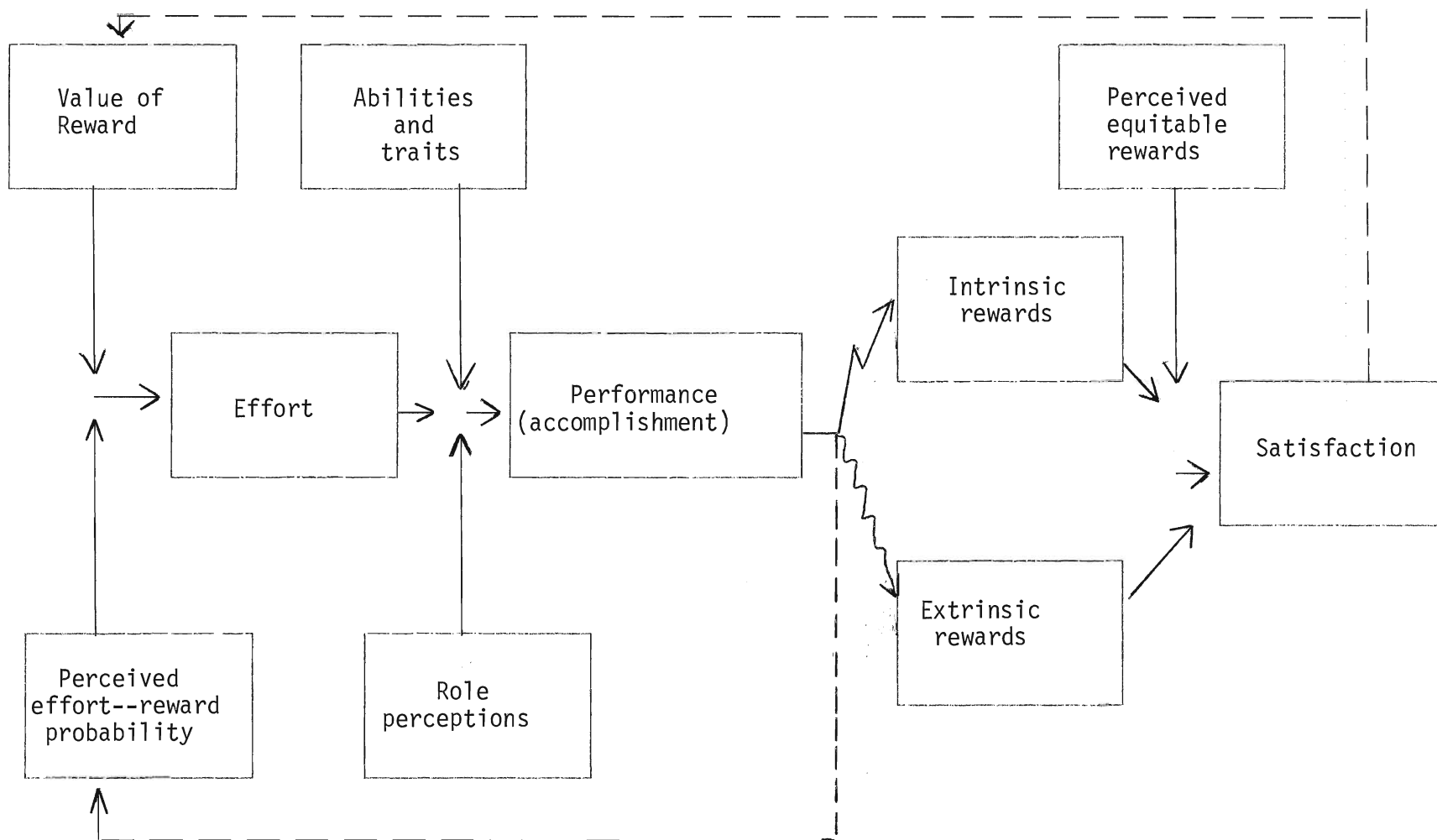


Figure 1: The Porter/Lawler Model of Job Satisfaction
(Porter and Lawler, 1968)

individuals as is intended by the theory. This has resulted in lack of support for the theory and conclusions that the theory is only moderately valid. But, as Pinder (1984) states, it seems hardly fair to conclude that the theory is not very valid on the basis of research that utilizes a between individuals approach.

Campbell and Pritchard (1976) are also critical of the existing research because of the use of cross-sectional research designs, in spite of the fact that the theory talks of changes from one point of time to another. In addition, the measures of valence, instrumentality and expectancy have shown low validity and reliability. Campbell and Pritchard claim that incorrect mathematical procedures have been used, and that the measures of valence, instrumentality and expectancy which are not independent should not be multiplied together. The research has also been criticized for the use of supervisory ratings of performance rather than effort, when effort is only one determinant of performance. Another criticism is that the role of rationality has been overemphasized when in fact, it is known that much of human behaviour is habitual and sub-conscious.

The criticism above has been directed at the research and not the theory itself. Although many research studies have been done on V.I.E. and the Porter/Lawler model, it has only been recently that more appropriately conducted studies have been carried out. It is possible that this is a reasonably valid model of the causes of work behaviour (Pinder, 1984).

One of the basic assumptions of the model is that forces in the individual such as values combine with forces in the environment, resulting in individuals choosing how to behave. The forces affect the value an individual will have for a reward and the perceived probability that the reward will come from a given effort resulting in performance. Although not equivalent, there seems to be some relationship between the value of a reward and value importance, and between the expected outcome or reward probability and value achievement. The expectancy model is predictive, whereas a value importance-value achievement model would be more descriptive. In a prescriptive model, it is the value of an expected outcome, and the expectation that a reward will follow with a given effort, that are relevant. In a descriptive model it is the actual value of an outcome or specific value importance, and the actual achievement of rewards or values, that are

relevant. One could argue further that what is valued or achieved in a descriptive model acts to influence what is expected, as in an expectancy model.

It would seem conceivable then, that when an individual values an outcome or rates a given work value as important, and when that individual perceives that outcome as dependent on his effort, or perceives that particular value can be achieved through his effort, then the individual will choose to perform in order to increase the chance of producing valued rewards or important values. Satisfaction is somewhat removed in this model, but can be seen to result at some point following performance accomplishment. The model is most helpful, however, in understanding how employees choose to behave given certain values and the likelihood those values can be achieved.

An example of a study using expectancy theory with value importance as the valence measure follows.

Pulakos and Schmitt (1983) completed a longitudinal study of valence model approach for the prediction of job satisfaction of new employees. Over three hundred high school graduates rated the valence or importance of thirteen existence, relatedness and growth outcomes, and their instrumentalities by asking subjects the degree to which they expected to obtain the outcomes when they

became employed. The instrumentalities were again determined nine months later by asking subjects the degree to which they expected to obtain the outcomes if they remained on their present jobs. Measures of job satisfaction were obtained at nine months and twenty months.

The valences, instrumentalities and valence-instrumentality products were correlated with subsequent measures of job satisfaction. The results showed that the valence and instrumentality measures were lowly intercorrelated indicating that importance is almost unrelated to perceptions that a job is likely to lead to need fulfillment. The instrumentality and valence-instrumentality correlations predicting job satisfaction were low but significant. The correlations between valence and satisfaction were non-significant.

The results that high instrumentality expectations concerning the degree to which jobs will meet existence, relatedness and growth needs are positively correlated with subsequent job satisfaction, suggested that satisfaction could be predictable at hire. The researchers questioned whether individuals have certain traits that result in high expectations leading to need fulfillment. The relatively low correlations of valences and satisfaction were noted to have possibly

been influenced by the fact the means of the valences were relatively high and the standard deviations small, suggesting a ceiling effect of valences.

Several other studies to be described in the section on Locke's work on values have used a modified expectancy approach to job satisfaction, where valence has been substituted with value importance, desirability or aspiration, and instrumentality has been substituted with perceived rewards or outcomes. The results of these studies would support the consideration of the use of value importance and perceived rewards or value achievement in an expectancy theory approach in further investigations.

Locke's work on values and related research. Locke (1976) sees values as the most direct determinant of job satisfaction. He describes job satisfaction as an emotional response which:

results from the perception that one's job fulfills or allows the fulfillment of one's important job values, providing and to the degree that those values are congruent with one's needs. (p.1307)

Locke, as described previously, distinguishes values from needs. He defines a value as that which one acts to gain and/or keep. A value is that which one regards as conducive to one's welfare and what a person consciously or subconsciously desires, wants, or seeks

to attain. Values are subjective as compared to needs which are objective. Other differences are that needs are innate, while values are acquired; all men have the same basic needs, but can and do differ in their values; and needs confront man with the requirement of action, but his values determine his actual choice and emotional reactions.

Locke states that it is the ultimate biological function of man's values to direct his actions so as to satisfy his needs. He points out, however, that not all men value what they need, such that values can conflict with needs. Since need frustration will result in pain or discomfort, then any pleasure gained from attaining a value that conflicts with a need will necessarily be diluted in quality, quantity or duration as compared with a value that is compatible with one's needs.

Having differentiated between needs and values, Locke goes on to describe a model of job satisfaction. As can be seen from the earlier discussion, models of job satisfaction can be classified as either content theories or process theories. According to Locke (1976), content theories attempt to identify the specific needs or values most conducive to job satisfaction, while process theories attempt as well to specify how variables combine to determine overall job

satisfaction. Locke classifies his model of job satisfaction as a process model.

In an article describing his theory of job satisfaction, Locke (1969) explains how values are related to emotions and job satisfaction. He describes man's consciousness as having three biological functions including cognition or identification of existents; evaluation, or the estimate of the beneficial or harmful relationship of perceived existents to oneself; and the regulation of action. The faculty of cognition enables man to discover what exists, but does not reveal the significance to him of the existents he perceives. Man must evaluate the objects and conditions which confront him.

The process of evaluation consists of estimating (consciously or subconsciously) the relationship between some object, action or condition and one or more of one's values. The evaluation or making of value judgements is a process of subjective psychological measurements in which the value is the standard. Man evaluates as to whether the object (action or condition) enhances or threatens his values.

Emotions are the product of value judgements. Emotions are value responses, and the relationship of value judgements to emotions is cause to effect.

Locke (1969) defines job satisfaction and dissatisfaction in his paper as being a function of the perceived relationship between what one wants from one's job and what one perceives it as offering or entailing. Job satisfaction is the pleasurable emotional state resulting from the appraisal of one's job as achieving, or facilitating the achievement of one's job values. The appraisal process consists of the perception of some aspect of the job, an implicit or explicit value standard, and a conscious or subconscious judgement of the relationship between one's perception(s) and one's value(s). Locke points out that all values have two attributes, including content, or what is wanted or valued, and intensity, or how much is wanted or valued.

Locke criticizes equity theory because although someone may consider some reward unfair and be dissatisfied, fairness is only one of the elements taken into account in arriving at a value judgement. He is also critical of Vroom's expectancy theory stating that the theory doesn't explain what causes satisfaction but accounts for the choices and overt actions which stem from one's satisfactions and anticipated satisfactions.

Locke also points out the dynamic character of values. Since specific values or goals are determined by more abstract values, specific values may change. He

gives, as an example, someone who values challenging work, who will not remain satisfied with repeatedly succeeding at a task which was initially difficult for him. He will demand work that is more difficult than the current assignment in order to attain his more abstract value. Locke also notes that man may have rational as well as irrational values, and that achieving one value may negate another. As in need-value conflicts, value conflicts may result in the diminution of intensity. To account fully for the effects of value achievement on job satisfaction, one would have to take account of the nature of the individual's job values and identify any value conflicts.

Individuals hold values in a hierarchy valuing some things more than others (Locke, 1976). Satisfaction with some object or situation is a function of not only the amount of discrepancy between percept and value, but also of the importance of that value to the individual. The importance of the value may vary as a function of the total amount of the value already possessed by the individual. As an example, someone may consider pay an important value up to a certain minimum, but further pay increments might be valued less than other factors such as changes in the work context.

The relationship of value importance to satisfaction was explored by Mobley and Locke (1970). These researchers carried out five studies in laboratory and field experiments. Four of the studies tested the hypotheses that value attainment and value frustration would produce more satisfaction and dissatisfaction, respectively, when the value was more important than when it was less important. The fifth study was designed to test the hypothesis that the overall variability in satisfaction would be proportional to the importance of that aspect.

The results of these studies indicated that the importance of a value to an individual does influence the range of affect that the value can produce. More important values can produce a greater range of affect than less important values. Sums of satisfaction scores for more important job aspects correlate significantly higher with overall job satisfaction than do sums of satisfaction scores for less important job aspects, and show higher variances. Mobley and Locke noted that subjects indicated that importance judgements were not easy for them to make. These ratings require an individual to introspect and identify at least part of his value hierarchy. As participants may not be introspective nor aware of their own values, they may

not have been able to identify their value hierarchy accurately.

Locke (1976) argues that what Vroom (1964) has called the subtractive and multiplicative models of satisfaction may not fully explain the effects of value attainment on satisfaction. The subtractive model views affect as a function of percept-value discrepancy, but ignores the effect of value importance. The multiplicative model views satisfaction as a function of the product of the perceived amount of the value and value importance, but ignores value-percept discrepancy. Neither view distinguishes between the amount of the value wanted and how much the person wants that amount or importance. He notes that subjects' responses may confound these two concepts further, by their rating importance when asked to rate discrepancy, and rating discrepancy when asked to rate importance, and so on.

Locke proposes that satisfaction be viewed as the difference between the value content wanted and what is perceived to be provided by the job multiplied by the value importance. Mathematically, $S = (V_c - P) \times V_i$, where S stands for satisfaction, V_c stands for value content (including the amount wanted), P stands for the perceived amount of the value provided by the job and V_i stands for value importance. Locke stipulates, however,

that the point(s) of inflection and the point(s) of neutrality would have to be discovered empirically in order to determine correctly the direction of the importance rating. Locke cautions, as well, that the above formula is misleading, in that it assumes ratio scale measurement of variables which are hard to measure even on an ordinal scale. He notes that the model pertains to single values, although most emotional reactions are the result of multiple value appraisals.

In a study by Evans (1969) the conceptual and operational problems in the measurement of various aspects of job satisfaction were explored. He compared a variety of methods of combining overall job satisfaction, level of aspiration, level of attainment and level of importance for facets of satisfaction. Goal attainment and job facet satisfaction were looked at as ways of describing job satisfaction. They concluded that all combinations had some merit, but preferred either the sum of the product of goal importance times the difference between goal aspiration and goal attainment, that is:

J.S. = THE SUM OF (Goal Importance X (Goal Aspiration - Goal Attainment)), or the sum of the product of goal

importance times goal attainment, that is:

$J.S. = \text{THE SUM OF (Goal Attainment X Goal Importance)}$.
(Facets could be substituted for goals.) They suggested the second alternative combined elegance along with brevity of a measuring instrument. Although goals are not the same as values, this appears to be consistent with Locke's (1976) formula above, but also suggests that Vroom's (1964) formula might be adequate as well. Evans (1969) noted that importance rating is not very well developed, and that people tend to rate all goals as important, with a resultant limitation in the range of variation in measurement. This note appears to be consistent with Pulakos and Schmitt (1983) who found the importance of outcomes or valences were all rated as high by participants in their study.

Evans (1972) concluded that complex ways of measuring and combining various aspects of job satisfaction do not appear to pay off in terms of improved predictability of overall job satisfaction.

He compared several different combinations of goal attainment, aspiration, desirability and importance in terms of their relationships with overall satisfaction for the goals of self-actualization, autonomy, self-esteem, social and security. Evans noted the high correlations among aspiration, attainment and

importance, and suggested that importance and aspiration were operationally similar particularly for autonomy and self-esteem. Although Evans suggested that importance and desirability be treated as different variables, the correlations between them were all positive, and were significant for the goals of autonomy, self-esteem and social.

The results indicated that the sum of facet satisfaction was the best predictor of overall satisfaction, followed by combinations involving attainment alone, aspiration minus attainment, and aspiration minus attainment weighted with either importance or desirability. Evan's findings may have been somewhat limited, however, by a sample size of only 42.

Mobley and Locke (1970) and Locke (1976) argue that weighting the individual job satisfaction estimates by value importance is of no benefit as the degree of affect reflects the importance already. This result was also found by Mikes and Hulin (1968) and Wanous and Lawler (1972).

The relationship between job satisfaction and work values (importance) and job rewards (attainment) was studied by Kalleberg (1977). Based on Locke's (1969) theory of job satisfaction, the importance of 34 job

characteristics were determined and were then factor-analyzed into six factors including intrinsic, convenience, financial, relations with co-workers, career opportunities, and resource adequacy. These work values were defined as what is desirable that individuals hold with respect to their work activity. Job rewards were determined by asking participants "how true" each of the same 34 characteristics were. Job satisfaction was hypothesized to be a function of the perceived outcomes or job rewards, and the job values or importance of work characteristics, based on Locke's (1969) definition that job satisfaction results from the appraisal of one's job as achieving or facilitating the achievement of one's job values.

In order to assess whether values and rewards were independent dimensions, the intercorrelations among the six work-value and job-reward scales were factor-analyzed, indicating that the reward and value scales represented independent constructs, and that the amount of instrument effect was small.

Job satisfaction was regressed on all values and rewards simultaneously, with the results indicating that rewards generally have greater effects on job satisfaction than values. Rewards had positive net effects on job satisfaction, while values generally had

negative net effects. Kalleberg concluded that the model underlying these results was an additive one where the effect of an increase in the level of a perceived job characteristic is always positive, and the effect of an increase in valuation on job satisfaction is always negative.

It is worthy of note that the standardized coefficients obtained from regressing job satisfaction on the specific satisfaction variables indicated that intrinsic satisfaction had the greatest effect on overall satisfaction, followed by satisfaction with pay.

While Kalleberg's results indicated that highest levels of job satisfaction would be experienced by those workers with high rewards and low values, O'Brien and Dowling (1980) hypothesized that congruency between perceived and desired job attributes would positively affect job satisfaction. They measured the perceived job attributes of skill-utilization, influence, variety, pressure and interaction, and the desired attribute or work value, by asking how they would like their jobs to be for each of the same attributes. Job satisfaction was measured on a scale developed for this study in order to reduce questionnaire time, and in order to sample a wider range of job facets.

The congruence hypothesis was tested using multiple regression and partial correlations, and was supported for the job attributes of skill-utilization and variety. The partial correlations for differences in skill-utilization, influence and variety were significant, also indicating that higher job satisfaction levels tend to be associated with small differences between perceived and desired job attributes. Congruency between these perceived and desired attributes was a much weaker predictor, however, than that of perceived job attributes alone. O'Brien and Dowling concluded that most employees would respond positively to their jobs when there are high levels of skill-utilization, influence and variety, regardless of their values.

Humphrys (1981) also found that the perceived level of job attributes was the best predictor of job satisfaction, after studying the effect of importance upon the relation between perceived job attributes, desired job attributes, and job satisfaction. Respondents were asked how much skill-utilization, variety, interaction, pressure and influence they experienced on their jobs; how much of each attribute they would like; and how important each attribute was. Job satisfaction was measured with the Job Descriptive Index (JDI) developed by Smith, Kendall, and Hulin

(1969), as well as the facet satisfaction scale developed by O'Brien and Dowling (1980).

Using hierarchical multiple regressions, the hypothesis that the discrepancy between desired and perceived levels of job attributes would better predict job satisfaction if the discrepancy scores were weighted by importance received only slight support. There was a significant increase in the variance in job satisfaction only when the JDI work satisfaction score was the dependent variable. The perceived level of the various job attributes was the strongest predictor of job satisfaction, again suggesting that any increase in the perceived level of job attributes would result in an increase in job satisfaction. The task would then become one of determining which job attributes would more likely bring about job satisfaction. An empirical determination of importance done in this study by employing a paired comparison, forced-choice question, showed that skill-utilization and, to a lesser extent, pressure and variety, were the factors most closely related to job satisfaction. The researchers noted that there was a discrepancy between the subjective ratings of importance where skill-utilization, influence and variety were all rated as high, and empirically determined levels of importance where skill-utilization

was the most significant attribute. They suggested that individuals may be unaware of which job attributes are responsible for their job satisfaction, or may lack the self-awareness or ability to define their value hierarchy. This finding is certainly consistent with other researchers (Evans, 1969; Mobley & Locke, 1970; Pulakos & Schmitt, 1983).

O'Brien and Humphrys (1982) hypothesized that congruency effects between work values and perceived job attributes on job satisfaction would be greater where there was generally a significant discrepancy between values and perceived outcomes among employees. They selected a sample of pharmacists arguing that this group would have a high discrepancy between values and perceived outcomes. Pharmacists' values would be high based on intensive training, but their perceived job attributes would be low because of "de-skilling" in their actual roles, as a result of the traditional pharmacist role being replaced by large manufacturing drug companies.

Perceived and desired attributes were measured for skill-utilization, influence and variety, and job satisfaction was measured using the JDI and the facet satisfaction scale developed by O'Brien and Dowling (1980).

The results indicated no significant association between congruency of job attributes and job satisfaction for the total sample. The hypothesis was supported, however, for recently qualified pharmacists for the attributes of skill-utilization and variety. As in earlier studies, the perceived job attributes alone accounted for much more variance in job satisfaction than did desired job attributes either directly, or in interaction with perceived job attributes. The researchers concluded that although work values may moderate job satisfaction for some employees, the most effective way of changing job satisfaction would be to increase the perceived levels of job attributes, particularly skill-utilization.

A study by Berger et al. (1983) looked at the effects of unions on job satisfaction. Based on Locke's (1969) writings, they examined the role of work-related values and perceived rewards and their relationship to five facets of job satisfaction. The researchers felt that observed differences between unionized and non-unionized employees could be due to differences in work-related values, differences in perceived rewards, or differences in both. Unions would effect job satisfaction indirectly through perceived values or rewards. It was hypothesized that satisfaction would be

a function of values and outcomes, and that these values and outcomes would be a function of union membership. Berger et al. measured facet satisfaction, values (importance), and perceived work outcomes (how much), and compared the results between union and non-union samples using multiple regression and logit analyses.

They found that the union had indirect effects on all facets of satisfaction with negative effects on satisfaction with promotion, supervision, co-workers and work itself. Unions had a relatively large indirect positive impact on pay satisfaction.

Of interest is the effect of unions on the satisfaction with work itself. Although there was no direct evidence of unions influencing values, it was hypothesized that they could, given socialization of new members. This seemed as well to be consistent with cognitive social learning theory and self-perception theory. The work itself has traditionally had low priority for unions and it was hypothesized that it would negatively effect members' values.

Evidence indicates that unions do have an effect on perceived work outcomes. Since bargaining normally results in narrower job descriptions, the union might have a negative effect on members' perceptions of perceived outcomes of the work itself.

The results showed that both values toward, and perception of work interest were strongly and positively related to satisfaction with work itself, and there was no direct effect of union membership on work satisfaction after controlling for the effect of work interest values and job scope perceptions.

Contrary to the hypothesis, there was no effect of union membership on values toward work interest. There was, however, a negative effect of the union on perceived work interest. The researchers cautioned that they were using data from 1972, and that union management relations may have changed. They questioned as well whether unions affect the values and perceived outcomes, or do values and outcomes cause union membership.

The use of value importance as a moderator of the value fulfillment - job satisfaction relationship was investigated by Butler (1983) with a sample of 264 employees in three different organizations. Fifteen values were measured using the Work Values Inventory including existence, relatedness and growth items such as intellectual stimulation, achievement, variety and others. Participants were asked how much of a particular characteristic was present, how much should be present, and how important each characteristic was.

Moderated regression indicated that value importance did not moderate in a government department, moderated for general satisfaction and social satisfaction but not for task intrinsic satisfaction for bank employees, and moderated strongly and significantly for a group of navy cadets. The different organizations were selected, in fact, because there were felt to be significant psychological and organizational differences among the three samples. In assessing the different organizational structures, value structures, goals and processes of the three organizations, Butler suggested that the amount of control that individuals had over value fulfillment, and the anticipated impact of fulfillment on future outcomes, might moderate the fulfillment-satisfaction relationship, in addition to value importance. In other words, in certain organizational settings where individuals have little control over value fulfillment, or the fulfillment of values has little probability of affecting future outcomes, the importance of values may decrease and become irrelevant.

This discussion on values indicates a variety of findings. Firstly, the fulfillment of values is certainly a determinant of job satisfaction, and the fulfillment, attainment or achievement of work values

has been used interchangeably with perceived rewards in the literature. There has been some evidence that when there are smaller differences between perceived and desired rewards, that job satisfaction levels tend to be higher. Value importance has been demonstrated to affect the degree of satisfaction in laboratory research, with more important values producing a greater range of affect than less important values. Weighting the difference between perceived and desired rewards with importance, however, has had mixed results with field experiments. The desirability and aspiration of values have been used interchangeably with the importance of values, and all three terms have been used as distinct variables as well.

Finally, the relationship between values and satisfaction is complicated by such factors as need-value conflicts, value conflicts, changing values, and difficulty in measuring and comparing values.

The findings on how to measure and how to combine which specific aspects of values in order to predict job satisfaction are inconsistent. Certain aspects of values certainly do combine to affect satisfaction, however, and it would appear that further research exploring value importance and the achievement of values

in the relationship to job satisfaction would be warranted.

Research on individual differences. Following a transition from the Scientific Management era to a period where job enlargement became very popular, researchers then began to be interested in looking at individual differences in responses to job characteristics. A review of some of this research, particularly as it pertains to values, will follow.

Turner and Lawrence (1965), Blood and Hulin (1967), and Hulin and Blood (1968) have contributed significantly to the work on individual differences and job responses.

Turner and Lawrence (1965) developed the Requisite Task Attribute Index which measured job characteristics, and which was predicted to be positively related to worker satisfaction and attendance. The researchers' expectation, however, that those employees working on jobs with a high R.T.A. index would have higher job satisfaction and lower absenteeism was not fully supported. The relationship was positive only for workers from factories in small towns. Workers in urban settings were less satisfied with jobs high on the R.T.A., and Turner and Lawrence argued that the obtained

reactions were due to differences in cultural backgrounds.

Blood and Hulin (1967) and Hulin and Blood (1968) suggested that alienation from middle-class work norms was one way to understand why some employees were satisfied with, and performed better on enlarged jobs. Employees holding traditional values regarding the value of work and achievement in work settings would respond to more complex jobs more favourably. Hulin and Blood (1968) used two variables, white collar versus blue collar and urban versus rural work site location. They concluded that the blue collar-urban workers represented alienated workers who did not derive satisfaction from enlarged jobs.

The relationship of job satisfaction to work values independent of other variables was looked at by Blood (1969). He believed that the way a person evaluated work in general should be related to his attitudes toward a particular job. He reviewed research that demonstrated that individual differences could be predicted by knowledge of religious affiliation, so proposed that these differences could also be predicted by psychological measures. Blood used the Protestant Ethic scale to measure individual differences in work values in relationship to job satisfaction. He

predicted that those persons who ascribed to the Protestant Ethic ideals would be more satisfied with their jobs.

The results showed that, with two exceptions, agreement with the Protestant Ethic was directly related to satisfaction, and agreement with non Protestant Ethic items was inversely related to satisfaction. The correlations were not large, and not all were significant. The exceptions had to do with satisfaction with pay and with supervision. The correlations with satisfaction with work itself and the job in general were all significant. Blood used multiple regression to assess the contribution of the Protestant Ethic contributions relative to age, education, tenure, and father's occupation, and found that the Protestant Ethic dimensions did make a contribution to the prediction of job satisfaction, particularly when only the general measures of job satisfaction were used.

Stone (1976) looked at the moderating effect of work related values on the job scope-job satisfaction relationship. In reviewing the research, he found that, in spite of some moderating effect for work values, the differences between groups were small. Stone hypothesized that all correlations between job scope and satisfaction with the work itself would be positive for

the whole sample and for each of the subsamples formed by grouping them on a Protestant Ethic index. This hypothesis was contrary to the Hulin and Blood (1968) model which would suggest that the relationship between job scope and job satisfaction would be negative for those low on the Protestant Ethic measure. Stone also hypothesized that the Protestant Ethic variable would moderate the job scope-satisfaction with work itself relationship.

Data were collected from a heterogeneous sample using instruments developed by Stone to measure job characteristics, work related values, satisfaction with the work itself, satisfaction with other aspects of the job, and demographic data. It is interesting that his job scope measure was calculated in the following manner:

$$\text{Job Scope} = (2 \times \text{variety}) + (2 \times \text{autonomy}) + \text{task identity} + \text{feedback}.$$

This formula resulted from findings that variety and autonomy had been the best predictors of satisfaction with the work itself.

The results of this study indicated that, as hypothesized, the job scope-satisfaction with work itself relationship was positive for the study's total sample, and the job scope-satisfaction with work itself relationships were positive for each of the subsamples

created by trichotomizing them based on the Protestant Ethic measure and its components. Contrary to the hypothesis of the moderating effect of the Protestant Ethic index, it did not, nor did any of the components of the Protestant Ethic, appear to moderate the job scope-satisfaction with work itself relationship. In order to further explore the possibility of the Protestant Ethic index moderating the relationship, a moderated regression was used. The results indicated a small moderating effect, but its practical significance was questionable. Stone concluded by suggesting that increases in job scope are accompanied by increases in job satisfaction for both "integrated" and "alienated" workers, and that the Protestant ethic was probably not an important individual difference moderator.

Wanous (1974) compared three different measures of individual differences as moderators of the relationship between job characteristics and job attitudes and job behaviour. He compared the measures of urban versus rural, as investigated by Hulin and Blood; the Protestant Work Ethic as investigated by Blood; and a higher order need strength measure similar to that used by Hackman and Lawler (1971). Wanous found that the higher order need strength measure of individual differences moderated most effectively, and that most of

the relationships between job characteristics and job satisfaction for high need strength compared to low need strength were significant. The Protestant Work Ethic was somewhat less effective, and the urban and rural backgrounds resulted in the fewest differences between groups. All measures were generally ineffective as moderators of the job characteristic-job behaviour relationship. The three individual differences were compared as well by correlating the measures, and the results indicated that the urban/rural background was not closely related to the other measures, but that the Protestant Work Ethic and higher order strength were correlated. Wanous reasoned that the higher order need strength yielded the clearest results because it was closest to the employee reactions it moderated. Protestant Ethic measures were further removed and urban versus rural even more so, therefore reducing their effectiveness as moderators of on-the-job attitudes and behaviour.

Ganster (1980) conducted a laboratory experiment to test the moderating effects of Protestant Ethic, growth need strength, need for achievement, and arousal-seeking tendency on task design relationships. Subjects were randomly assigned to either a low scope or high scope task. Individual differences, task perceptions

including variety, autonomy, feedback and identity, and job satisfaction using three different scales were measured.

The individual difference variables were assessed as moderators of both the objective scope-satisfaction relationship and the perceived scope-satisfaction relationship using moderated regression and subgroup analysis. None of the individual difference variables significantly moderated the objective scope-satisfaction relationship. Need for achievement moderated the perceived scope-satisfaction relationship, but its effects were contrary to those hypothesized.

Although Ganster did not find the moderator effects as hypothesized, he did find that the objective task scope explained 58% of the variance in task satisfaction, and that perceived task scope accounted for satisfaction over and above that explained by the objective scope. Because spurious relationships involving either task scope or satisfaction were controlled by experimental design, and the effects of common method variance, consistency and priming artifacts were minimized, Ganster saw these results as strong support for the contention that task scope and at least employee affective responses are causally related. Although Ganster acknowledged that individual

differences might demonstrate increased moderator effects over a longer period of time, he concluded as have several other researchers previously discussed, that workers in general will respond positively to jobs high in task scope, and when people do respond differentially, they do so in ways which researchers have not as yet been able to predict.

Cherrington and England (1980), after reviewing the studies on moderator variables, hypothesized a direct measure of a person's desire for an enriched job would be an effective moderator of the enrichment-satisfaction relationship. They measured job enrichment with five items, and measured enrichment desired by asking how much of each of these items was desired. This measure was compared with three other work value scores consisting of a moral importance of work scale, a pride and craftsmanship scale, and a valence of intrinsic reward scale. Overall performance and three measures of satisfaction were examined.

The data were analyzed using correlational analysis, multiple regression, and a 3 x 3 analysis of variance where job satisfaction and performance levels were compared between three levels of job enrichment and three levels of the other six moderator variables. The results indicated that job enrichment desired was the

best moderator between job enrichment and worker responses. Cherrington and England acknowledged that the approach of asking an employee whether or not he wanted an enriched job lacked theoretical elegance, but argued that one's desire for an enriched job resulted from a complex combination of situational and/or personality variables and not a single set of causal variables which could be discovered and analyzed. Although the researchers concurred that generally increased job enrichment was associated with increased job satisfaction regardless of desire for job enrichment, they cautioned that these were average scores, and that job enrichment may not be effective in certain jobs, with certain job characteristics, and with certain individuals.

Many potential moderators have been studied in the relationships between job characteristics and affective and behavioural reactions. The studies reviewed above included some of the research on the moderators of alienation from work, belief in the Protestant Ethic, urban versus rural residence, higher order need strength, and the desire for an enriched job. The results of these studies were somewhat mixed. There were claims of support from Hulin and Blood (1968), Blood (1969), Wanous (1974), and Cherrington and England

(1980). Stone (1976), however, found that the Protestant Ethic did not appear to moderate the job scope-satisfaction with work itself relationship, and Ganster (1980) did not find moderating effects as hypothesized.

Although several researchers have found that the job scope-job satisfaction relationship is generally positive, there is certainly indication that there are differences in how people respond to job characteristics. At this point, it is a question of what variable moderates, and perhaps how it moderates. In concluding his research, Wanous (1974) has suggested moderators closer to employee reactions, that is for example, growth need strength as opposed to rural versus urban, are more effective. Steers and Spencer (1977) have suggested using moderating variables which are specifically focused on the nature of the task, and more specific than growth need strength. Cherrington and England (1980) have also concluded that using a direct measure of a person's desire for an enriched job is an effective moderator of the job scope-job outcome relationship. Because, as argued previously, the importance of certain work values may actually be a closer indicator of how or whether or not one goes about filling his growth needs, and as well, are more

specifically focused on the task than growth need strength, it would seem appropriate to investigate the importance of these values on the job characteristics-job satisfaction relationship. The values suggested are, as previously discussed, doing meaningful work, using ability and knowledge, contributing to society, having influence over work, having responsibility, independence, and a sense of achievement.

This section has looked at Herzberg's, Porter/Lawler's, and Locke's approaches to job satisfaction, and has also reviewed some of the individual difference research as it relates to values.

Although research findings have been mixed in each of these areas, there appears to be nonetheless, evidence that would indicate:

1. the merit of measuring the achievement of specific work values in determining opportunities available for growth need fulfillment in jobs;
2. the merit of using an expectancy approach in exploring how value importance and value achievement affect employee performance and satisfaction;
3. the merit of further research investigating value importance and value achievement in their relationship to job satisfaction directly; and

4. the merit of investigating the moderating effect of specific work values on the job characteristic-job satisfaction relationship.

As mentioned above, the work values suggested, because of their relationship to growth and/or higher order needs, are doing meaningful work, using ability and knowledge, contributing to society, having influence over work, having responsibility, independence, and a sense of achievement.

Job Characteristics Approach

Much of the research looking at the job scope-job outcome relationship has looked at higher order needs or growth need strength as moderators of this relationship. A large portion of the research done in this area has been based on the Hackman and Oldham (1980) job characteristics approach.

Of significant influence in the development of the job characteristics approach was the development and testing of a conceptual framework by Hackman and Lawler (1971) which specified conditions under which jobs would facilitate the development of internal motivation. Consequently, this section will first review Hackman and Lawler's work; followed by the job characteristics

approach; then research on the job characteristics approach; and finally, criticism of the job characteristics approach.

Hackman and Lawler. Hackman and Lawler (1971) conceptualized about the interaction between job characteristics and individual differences based primarily on the expectancy theory of motivation. They proposed that an individual will most likely engage in a behaviour if he believes that he can obtain an outcome he values by engaging in that particular behaviour. Outcomes are valued by people to the extent that they satisfy physiological and psychological needs or lead to other outcomes which satisfy these needs. Employees will work hard towards the achievement of organizational goals if conditions at work can be arranged so that employees satisfy their own needs best by working effectively towards these organizational goals. Higher order needs will serve as better motivators since lower level needs are reasonably well satisfied for individuals, although not all employees will respond to opportunities for the satisfaction of higher order needs. Those that do, however, will experience such satisfaction when they have, as a result of their own efforts, accomplished something that they personally believe is meaningful or worthwhile. In order to

establish conditions for internal work motivation, a job should allow workers to feel personally responsible for an identifiable portion of work, provide work outcomes which are intrinsically meaningful or worthwhile, and provide feedback about performance effectiveness. When a person works hard on a job he will have more opportunity to experience higher order need satisfaction and more incentive for continued effective performance. Higher order need satisfactions serve as a result of, and also as an incentive for, effective performance.

The job characteristics which have been identified above as being necessary for developing congruence between individual need satisfaction and organization goal achievement are responsibility, meaningfulness, and feedback. These job characteristics, however, needed to be described in more measurable terms.

The problem of measuring job characteristics had been carefully dealt with by Turner and Lawrence (1965). They developed operational measures of six requisite task attributes including variety, autonomy, knowledge and skills required, responsibility, required interaction, and optional interaction.

Hackman and Lawler (1971) related the required characteristics of responsibility for a meaningful portion of work to Turner and Lawrence's autonomy

measure. Similarly, they related the characteristic of meaningfulness to task identity or completing a sufficiently whole piece of work, and to variety, which would be expected to measure the opportunity to use valued skills and abilities. The fourth characteristic which would be required and was not measured by Turner and Lawrence, was feedback.

Measures of these four dimensions were developed, as were measures for dealing with others and friendship opportunities. These additional measures were similar to those used by Turner and Lawrence (1965) but were not directly relevant to the conceptualization above. The importance of having all four core dimensions present was demonstrated.

The researchers noted that there were differences between the perceived and objective job characteristics, but it was the employee's perception which would affect the employee attitudes and behaviour, and changing the objective characteristics of the job did not necessarily mean the employee would experience it as such.

The study was carried out on a heterogeneous sample with respondents working in thirteen different jobs. The six job dimensions, individual need strength, experienced work motivation, job involvement, general job satisfaction, performance and absenteeism were

measured. The job dimensions were measured by employees, supervisors, and by the researchers. Because, however, there was generally high convergence, and the conceptual basis of the study suggested that jobs experienced by employees should be most directly causal of employee reactions to their jobs, only the employee responses were used in the analyses.

The results showed that generally there were positive relationships between the four core dimensions and dependent measures of motivation, satisfaction, performance and attendance. Nearly all of the specific satisfaction items were significantly positively related to the core dimensions, but those most strongly related were the higher order need satisfaction items.

The relationships between job perceptions and the dependent variables were examined separately for workers on each of the thirteen jobs to determine whether perceptual factors largely uncontaminated by objective between-job differences, bore a significant relationship to the dependent variables. The results suggested that the employee's perceptions were of central importance in affecting job attitudes and behaviour, but the major determinant of such perceptions was the objective job itself.

The disjunctive model for combining the core dimensions was compared with other methods of combining dimensions, and the results indicated that the model used was not disconfirmed by the data, but was not shown to represent a more adequate means of combining the dimensions than the other models tested.

The moderating effect of higher order need strength was examined. It is noteworthy that the mean higher need strength score was 6.01 where a score of 7 was the maximum. It would seem that most participants felt they had higher order needs, and the prediction that all relationships would be positive was borne out. The sample was trichotomized according to higher order need strength, and the results showed that it did moderate for variety, autonomy and to a lesser extent for feedback, but it did not moderate for task identity. The researchers concluded that the data made a strong case for the moderating effect of higher order need strength on the relationship between job characteristics and employee attitudes and behaviour.

In dealing with the problem of perceived characteristics as opposed to objective characteristics, Hackman (1970) had proposed that the redefinition of the objective task to the perceived task was the first stage

of the performance process, and was influenced by individual needs, goals and values.

Although the social components of the job characteristics were not significant, the researchers believed they could affect overall satisfaction if they were particularly negative.

The researchers concluded that as there were many workers who would desire higher order need satisfaction from their work, and relatively few who would be overwhelmed by the psychological demands of the job, redesign of jobs should be considered. In a review of the literature, Lawler (1969) suggested that simultaneous horizontal and vertical job enlargement would increase the likelihood that a redesigned job would be high on all four core dimensions.

The job characteristics approach. Hackman and Oldham (1980) have based their approach to job design on Hackman and Lawler's (1971) study and other related research, and as such their approach has many similarities to the conceptualization and method described above.

The job characteristics approach proposes that a set of features should be built into jobs in order to make them satisfying and motivating. According to Hackman and Oldham, an employee will experience internal

motivation when three conditions are present. These three "critical psychological states" are knowledge of results, experienced responsibility for the results of the work, and experienced meaningfulness of the work. It appears necessary for all three critical states to be present for strong internal motivation to develop and persist.

The three psychological states are internal to persons and not directly manipulable in designing work. Hackman and Oldham identify what they consider to be reasonably objective, measurable, changeable properties of the work itself that foster the three psychological stages and consequently enhance internal work motivation.

Characteristics of jobs that they identify as being effective in influencing the experienced meaningfulness of work are skill variety, task identity, and task significance. Skill variety is defined as "the degree to which a job requires a variety of different activities in carrying out the work, involving the use a number of skills and talents" (Hackman & Oldham, 1980, p.78). When a task requires workers to engage in activities that challenge their skills or abilities, they usually experience the task as meaningful.

Task identity is defined as "the degree to which a job requires completion of a 'whole' and identifiable piece of work, that is doing the job from beginning to end with a visible outcome" (p.78). Individuals tend to see a task as more meaningful when they do a whole job as opposed to just a small part of it.

Task significance is defined as "the degree to which the job has a substantial impact on the lives of other people, whether these people are in the immediate organization or in the world at large" (p.79). Experienced meaningfulness is usually enhanced when workers know that they will have an impact on the physical or psychological well-being of other people.

Autonomy is the job characteristic identified as fostering increased feelings of responsibility. Autonomy is defined as "the degree to which the job provides substantial freedom, independence and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out" (p.79). As autonomy increases, individuals will see that outcomes depend on their own efforts, and that they are responsible for success and failures.

Feedback is necessary for the knowledge of the results of one's work, and it is defined as "the degree to which carrying out the work activities required by

the job provides the individual with direct and clear information about the effectiveness of his or her performance" (p.80). The focus here is on feedback obtained from doing the job itself as opposed to feedback gained from others (Hackman & Oldham, 1980, pp.78-80).

The overall motivating potential of the job is calculated as in the formula below:

Motivating Potential Score =

(Skill variety + Task identity + Task significance) x Autonomy x Job Feedback

3

The job must be high on at least one of the three characteristics that foster experienced meaningfulness, and high on both autonomy and feedback, in order for a job to be high in motivating potential. The authors point out that a high motivating potential will not cause employees to be internally motivated, but creates conditions that will likely result in the employee experiencing a reinforcing state of affairs as a consequence of performing well.

Not all employees respond to jobs which are high in motivating potential. According to Hackman and Oldham, knowledge and skill, growth need strength, and satisfaction with the work context are three factors that modify the relationship, at the point between core

job characteristics and critical psychological states, as well as at the point between critical psychological states and outcomes.

In order to perform on a job high in motivating potential, individuals will obviously require the knowledge and skills to do so. When individuals are not competent to perform the job, then they will experience negative feelings which will not result in internal motivation.

In addition, the psychological needs of an individual are critical in determining how that person will respond to a job high in motivating potential. Those with strong needs for personal accomplishment, for learning, and for further developing themselves are said to have strong growth needs. People with high growth need strength will experience the psychological states more strongly than people with low need growth strength on a job with a high motivating potential. They will also respond more positively to the psychological states when they are present, than those with low growth need strength. Growth need strength then, is again believed to moderate at the two points in the model.

Satisfaction with the work context is the third factor moderating the job characteristics-work outcomes

relationship. Hackman and Oldham predict that those people relatively satisfied with pay, job security, co-workers and supervisors will respond more positively to jobs with high motivating potential.

The outcomes associated with a job high in motivating potential as identified by Hackman and Oldham are internal motivation, growth satisfaction, general satisfaction and high work effectiveness. They predict increased effectiveness because individuals will experience positive affect when they perform well or with high quality. Some increase in quantity may occur as well because dysfunctional behaviours may be eliminated because a person is better motivated, hidden inefficiencies in the redesign of the work may be eliminated, and redundancies or time-wasting procedures built into the work system itself may also be eliminated.

Although the relationship between satisfaction and the core job characteristics has been suggested in the previous discussion, that relationship will be reemphasized. When a job is high in the core job characteristics and the resulting motivating potential score, it will create conditions that make it possible for individuals to experience the three critical

psychological states if the job is performed well. Job holders then have the opportunity of meeting growth needs or having growth need satisfaction which contributes to an overall feeling of satisfaction. The fulfillment of these needs would be an intrinsic outcome (Lawler, 1969) and acts as a self-reward which serves as an incentive for continuing to perform well, and is therefore, self-perpetuating. Thus, growth satisfaction, satisfaction and intrinsic work motivation are closely tied together in the job characteristics model. Hackman and Oldham (1980) predict increased job effectiveness for a variety of reasons as described above, but there is no simple relationship between job attitudes and job performance (Pinder, 1984). Although previous researchers had attempted to demonstrate that increased job satisfaction would lead to improved performance, Porter and Lawler (1968) have concluded that performance levels may cause satisfaction, rather than the other way around, or that a number of organizational factors simultaneously influence both satisfaction and performance with the result that they may appear to be causally related.

The completed job characteristics model is depicted in Figure 2.

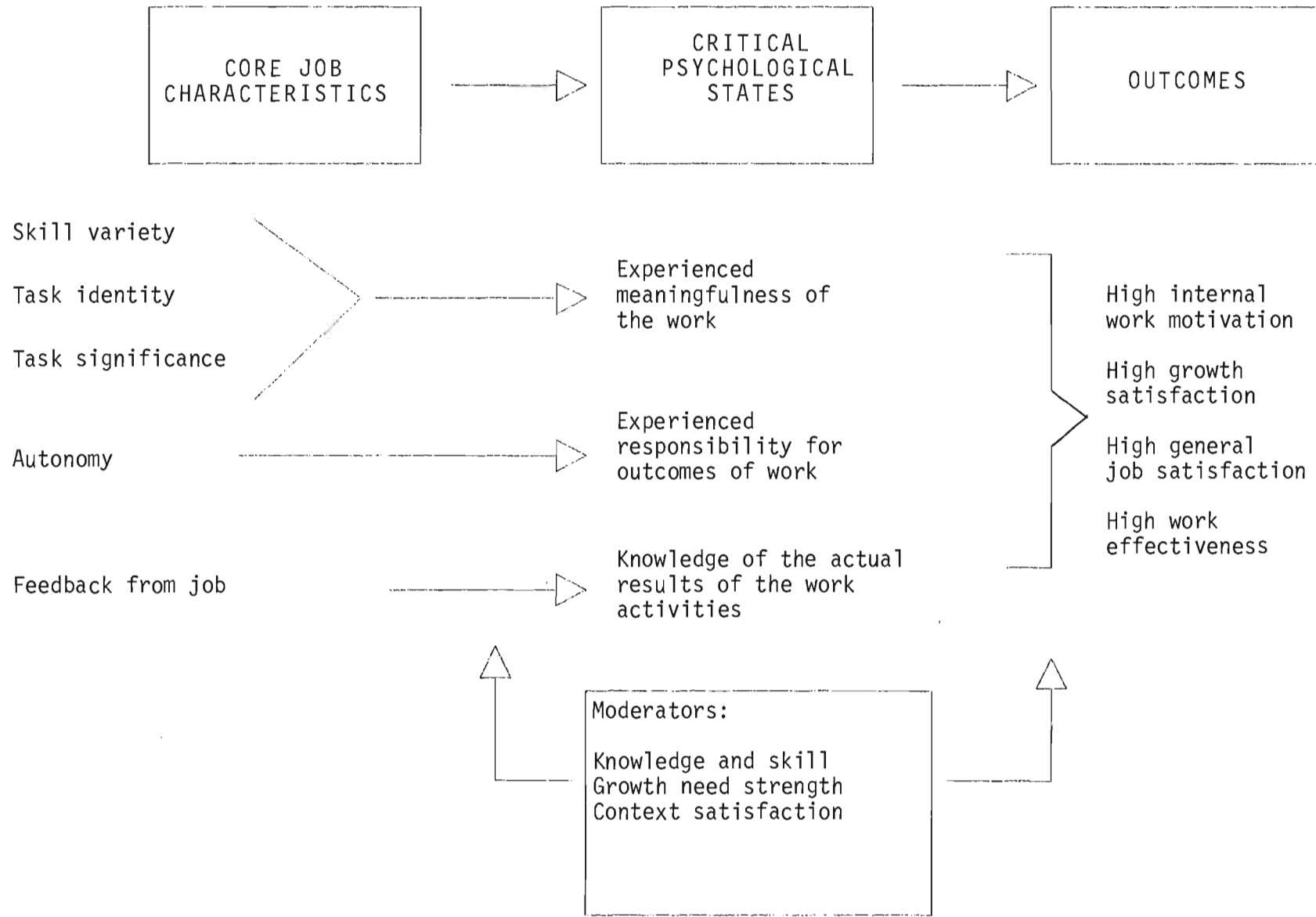


Figure 2: The Job Characteristics Model (Hackman and Oldham, 1980, p.90)

Given the discussion in the previous sections that has suggested the use of work values in the investigation of job design, job outcomes, and the relationship between job design and job outcomes, it would seem appropriate to attempt to relate the identified work values to the job characteristics model.

The Hackman and Lawler (1971) model which developed into the job characteristics model was based on designing the job in order to allow for the satisfaction of higher order needs with resulting motivation and overall satisfaction. The critical psychological states, then, although not specifically described as such by Hackman and Oldham, are also based on higher order need satisfaction. It would seem logical, then, that the previously identified work values which are also based on, or are similar to, higher order or growth needs, are also similar to the three critical psychological states. The use of achieved values is certainly consistent with Hackman and Lawler's (1971) original conceptualization that attaining valued outcomes or achieving something that is valued, will potentially motivate individuals and result in satisfaction.

Experienced meaningfulness is obviously related to the value of doing meaningful work, to the value of

contributing to society, and as well to the value of using ability and knowledge. Similarly, experienced responsibility is related to the values of responsibility and influence over work, and possibly independence in work as well.

Knowledge of results conceivably bears some relationship to sense of achievement, although this value also seems to be related to experienced responsibility, and perhaps to a lesser extent, to experienced meaningfulness.

There is not a one-to-one correspondence between the critical psychological states and the identified work values, but there is a strong relationship conceptually and logically. Again, as suggested in reviewing Herzberg's theory, the measuring of achieved work values would seem an appropriate way of specifically determining whether certain characteristics in jobs were providing opportunity for need fulfillment, and might also be substituted for the critical psychological states in Hackman and Oldham's model to determine this as well. Although Hackman and Oldham have argued that all three critical psychological states are necessary for strong internal motivation to occur, there is no evidence that the achievement of all work values are required in order to have internal motivation

or job satisfaction. Instead, it is suggested that a total of achieved work values may be a reasonable indicator of the opportunities for internal motivation and satisfaction in a job. The total of achieved work values is somewhat broader than the critical psychological states, and may even be a better indicator of opportunities for need fulfillment than the critical psychological states, adding greater predictability of job outcomes. The measuring of achieved work values is also more direct than the measuring of the critical psychological states.

The addition of achieved work values is consistent with the research of Hunt and Saul (1975), who added and then averaged how much of six job factors respondents experienced in their jobs, in order to obtain an overall measure of job satisfaction. It is also similar to the addition of measures of various goals attained to determine overall satisfaction, as suggested by Evans (1972) and Wanous and Lawler (1972). The addition of achieved work values selected in this study would give an indication of intrinsic work satisfaction, however, as opposed to overall satisfaction, as in the research of Hunt and Saul (1975), Evans (1972), and Wanous and Lawler (1972).

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Another way of relating the work values to the model is by relating them to the job characteristics themselves. Each required job characteristic could be seen to be related to or possibly result in the achievement of a specific work value. That is, skill variety is related to or might result in the use of ability and knowledge; task significance to contribution to society, task identity to meaningful work, autonomy to responsibility, independence and influence over work; and feedback to sense of achievement. Again sense of achievement appears to be somewhat broader, and may relate to some extent to all of the task characteristics.

In summary, it would appear as if measurement of achieved work values could be used to determine whether the presence of certain job characteristics resulted in opportunities for need fulfillment, based on the logical and conceptual relationship of the work values to both the job characteristics themselves and the critical psychological states.

It has been argued previously that the use of importance of specific work values as a moderator in the job characteristic-job outcome relationship be investigated. The substitution of importance of work values for growth need strength in the Hackman and

Oldham model would also seem appropriate, as the importance of work values are also indicators of how or whether or not one goes about fulfilling his growth needs, and are conceptually similar, therefore, to growth need strength. In describing who would respond to enriched jobs, Hackman and Oldham (1975) state that those persons who strongly value personal feelings of accomplishment and growth should respond positively to jobs high on the core dimensions. The importance of work values would function additionally as a more specific measure than growth need strength, and would correspond directly to the use of achieved work values as suggested above. Although the importance of each work value may act separately as a moderator, it is suggested that a sum of the importance of identified work values be used as a total measure comparable to growth need strength.

This is consistent with Pulakos and Schmitt's (1983) research where they added the importance of values within existence, relatedness and growth categories in order to give a measure of valence for each need category.

The discussion will now return to the actual Hackman and Oldham model to review some of the research based on it.

Research on the job characteristics approach. Two of the studies that were done by Hackman and Oldham and resulted in the formal job characteristics approach were the Development of the Job Diagnostic Survey, Hackman and Oldham (1975), and Motivation through the Design of the Work: Test of a Theory, Hackman and Oldham (1976).

Hackman and Oldham (1975) collected data from 658 employees working at 62 jobs in order to determine the empirical characteristics of the Job Diagnostic Survey. It was concluded that the data demonstrated that the J.D.S. had satisfactory empirical characteristics, but a few points will be noted.

The ratings of job characteristics by incumbents, supervisors and observers were correlated and found to be lower than those reported for similar job dimensions by Hackman and Lawler (1971). The median of correlations between employees and supervisors was .51, between employees and observers was .63, and between supervisors and observers was .46. Although described as converging moderately well, the correlations appear to be quite low.

Data were presented showing both within-job and between-job variance. The authors pointed out that an unknown amount of the within-job variance must be attributed to scale unreliability and to individual

differences. Some of the variance, however, could be explained by the fact that jobs are often individually designed because of the characteristics of the people in them, or because of a need for certain specialized activities to be performed by some people within a job category.

The relatively low correlations of job characteristics by different raters, and the amount of within-job variance demonstrated that differences certainly do exist between the objective and perceived job characteristics.

Finally, Hackman and Oldham (1975) pointed out that in order to "maximize the substantive richness" of each measure, a scale of rather heterogeneous items was developed at some cost to the internal consistency reliability. The reliabilities would be more than satisfactory when used to obtain average scores of a group of five or more, but might not be high enough to warrant job changes on the basis of individual scale scores.

Hackman and Oldham (1976) made further points in describing their test of their theory.

Regressions were computed predicting outcome measures from each of the three psychological states and each of the possible combinations, and results indicated

that the prediction that all three psychological states were necessary to maximize the prediction of outcome measures must be interpreted with considerable caution.

The authors also noted that there was general support for outcomes being dependent on the critical psychological states, but that experienced responsibility was less significant in predicting general and growth satisfaction than was autonomy.

The researchers noted as well that the specific job dimensions related to meaningfulness and knowledge of results as specified, but that experienced responsibility was affected by all job dimensions, and not just autonomy.

Hackman and Oldham (1976) compared five methods of calculating M.P.S. and found the multiplicative model slightly the worst, but noted that results did not meaningfully differentiate among the methods.

There was no evidence that those employees with low growth need strength did not respond positively to increased job scope. Growth need strength did moderate significantly at the second point in the model, and significantly at the first point in the model except for task identity. G.N.S. did not moderate on the whole as well as it did at specific points.

Brief and Aldag (1975) attempted to replicate Hackman and Lawler's (1971) research. They used a slightly revised version of the questionnaire used by Hackman and Lawler and substituted the Job Descriptive Index to measure various aspects of satisfaction on a population of 104 correctional workers. All the correlations between core dimensions and outcome variables were significant except between task identity and internal work motivation. The correlations were not as high with satisfaction with pay, co-workers, promotion and supervision as with satisfaction with the work itself. This study generally confirmed Hackman and Lawler's (1971) conclusions that growth need strength modified except for task identity, but many of the correlations lacked significance. In addition, individuals low in higher order need strength displayed stronger relationships between the core dimensions and affective responses more extrinsic to the work itself than did individuals high in higher order need strength.

Oldham, Hackman and Pearce (1976) examined the effects of growth need strength and level of satisfaction with the work context on employee responses to enriched work. Moderate support was found for the hypothesis that growth need strength moderated the relationship between job scope and work outcomes. The

hypothesis that the level of satisfaction with work context would moderate the relationship was generally supported as well. When the moderating effects of the combined variables were analyzed, the hypothesis received strong support for the outcome of performance effectiveness. The moderating effect was not, however, as strong for the measure of internal motivation. The correlations between M.P.S. and outcome measures were positive and often of high magnitude in high growth need groups with high contextual satisfaction. Correlations were often negative and sometimes substantially so for employees with low growth needs and low contextual satisfaction.

Abdel-Halim (1979) also investigated the moderating effects of growth need strength and satisfaction with supervisors and co-workers, on the job characteristics-job satisfaction and job characteristics-job involvement relationship. It was hypothesized that satisfaction with supervisors and co-workers would moderate for both outcomes of intrinsic job satisfaction and job involvement, but that G.N.S. would moderate for intrinsic satisfaction only. As G.N.S. would act as a direct correlate of job involvement, it consequently would not act as a moderator as well. All measures were from Hackman and Oldham's (1976) Job Diagnostic Survey,

except for satisfaction with supervisors and co-workers which was from the Job Descriptive Index, and job involvement which was measured with the scale developed by Lodahl and Kejner (1965). Moderated regression was used to analyze the data.

The results indicated a significant interaction between M.P.S and G.N.S. in predicting intrinsic satisfaction, while no such interaction existed for job involvement. Contrary to the hypothesis, however, the findings showed that individuals experiencing low supervisory and co-worker satisfactions demonstrated increased job satisfaction and job involvement under enriched job conditions.

Although these findings concerning supervisory and coworkers satisfactions were contradictory, the researchers concluded that their findings related to G.N.S. enhanced the case for the external validity of G.N.S. as a moderator of the job characteristics-job satisfaction relationship.

Several researchers have tested portions of the job characteristics model on nursing samples in health care settings. The impact of task characteristics on nursing aides and assistants in a hospital setting was examined by Brief, Aldag and Jacox (1978). This study did not examine the job characteristics approach per se as the

moderating effect of growth need strength was not investigated, but looked at, in addition to the job characteristics-job satisfaction relationship, the relationship of job characteristics and job behaviours. The Job Diagnostic Survey was used to assess job characteristics and the Job Descriptive Index was used to measure various facets of satisfaction. Other measures developed were intended to measure propensity to leave the organization and the degree of work tension. The researchers criticized previous studies focusing on employee perceptions of task characteristics, in that none had simultaneously examined the specific job behaviours associated with those perceptions. They argued that task characteristics might be related to job behaviours that wouldn't be predicted. As an example, one of their results demonstrated that general personal hygiene, a very routine task, was significantly related to task significance. Consequently, their study included a list designed to measure all task behaviours comprising the subjects' jobs.

The correlations between task characteristics and employee responses were primarily in the predicted direction. The correlations between task characteristic perceptions and task behaviours were positive, though

many of them insignificant. The authors stressed the importance of examining this perception-behaviour linkage. Of additional significance, was the fact that while non-routine care was an important determinant of task characteristic perceptions, other apparently less rich sets of behaviours also exhibited moderate links to certain of those characteristic perceptions. Brief et al. cautioned that a strategy to enhance nurses' satisfaction and performance should not be done without measuring both nurses' perceptions of their job as well as the actual behaviour in which they engage. This study points out that the objective and perceived task characteristics may differ quite significantly.

Roedel and Nystrom (1988) have also tested part of the Hackman and Oldham (1980) model in a hospital setting. These researchers looked at how nursing jobs differed in terms of perceived task characteristics, and how satisfaction was related to these differences. Roedel and Nystrom preferred to emphasize the scores of the five job characteristics separately, as they felt this would reveal much more information useful to individuals seeking to diagnose and redesign jobs.

Correlations between job characteristics and job satisfaction were all positive, and they were significant for task identity, autonomy and feedback.

Correlations between M.P.S. and job satisfaction were also positive. Analyses of variance revealed significant differences among nurses' assignments with respect to skill variety and task identity, as well as certain facets of job satisfaction. The researchers also compared their results with norms for professional-technical employees collected by Hackman and Oldham (1980), and found that nurses reported significantly higher skill variety and task significance, but lower task identity.

Roedel and Nystrom concluded that the results provided them with some very specific information that would be most helpful in improving nurses' job satisfaction, and that the Job Diagnostic Survey generally was a very worthwhile method for diagnosing and redesigning jobs.

These findings and conclusions were similar to an earlier study done on nurses by Joiner et al. (1982). In this similarly designed study, these researchers found that different assignments varied significantly with respect to perceived job characteristics; that nurses in general tended to report higher task significance and lower task identity when compared with other professionals, and that nurses' jobs should be

diagnosed to determine which areas could benefit from job enrichment in order to improve satisfaction.

Champoux (1980) examined some theoretical extensions to the Hackman and Oldham (1976) job characteristics model. Based on activation theory, Champoux predicted that jobs broad in scope may be sources of excessive stimulation, and would produce decrements in performance and attitudes. The relationship between job scope and psychological response would then be curvilinear. He also predicted that individuals with strong growth needs would experience a smaller decrement in the curvilinear relationship between job scope and psychological response than those with weak growth needs. The results showed that the job scope-growth need strength interactions predicted by the basic job characteristics model were found in two out of three samples. There was no ready explanation as to why this discrepancy in the results occurred. There was considerable support for the predicted curvilinear relationship between job scope and psychological response. No support was found for the second extension to the theory. The author suggested further research to explore the curvilinear relationship, and added that, if found, then a

diminishing return from increasing job scope could be expected.

Methodological and substantive extensions to the job characteristics model were explored by Arnold and House (1980). Their research focused on the validity of the motivating potential score formulation and the analytic strategies needed to test it; the hypothesized moderating effect of growth need strength, and again the analytic techniques used; and the role of valences of the psychological states in influencing motivation, satisfaction and performance.

Arnold and House (1980) questioned the multiplication involved in determining M.P.S. and consequently the three psychological states as well. They suggested that hierarchial multiple regression analysis be used to determine the significance of terms hypothesized to exist by the multiplicative models. They were critical of split group correlations to determine the effect of moderating variables, and again suggested using hierarchial multiple regression analysis. They argued as well that the extent to which the psychological states would be motivational would be a function of valence of the psychological state based on an expectancy point of view. Internal work motivation of an individual would be the sum of the

products of the psychological states experienced and the valences of those psychological states. Individual differences in reactions to job characteristics could be predicted and explained in terms of differing valences for intrinsic outcomes. Employing this measure rather than the more global growth need strength concept was consistent with arguments of Mischel (1968, 1973), who favoured developing highly specific and situational relevant variables as opposed to more global personality traits or generalized dispositions.

In order to test the hypotheses, the basic J.D.S. was used, but the ordering of questions was changed in order to minimize possible priming effects described by Salancik and Pfeffer (1977). Valence of outcome was assessed via single items which stated the outcome and asked the respondents to indicate their personal value for the outcome on a 15-point scale. The three psychological states were included in this outcome set.

Using hierarchical multiple regression, the results showed that there was no support for the three-way interaction of the psychological states. Because the M.P.S. formula was based on this interaction, it was tested as well, and again, no support was demonstrated. Findings indicated that there was some support for the G.N.S. moderating effect on the job dimensions-

psychological states relationship, but there was no support for the moderating effect of G.N.S. on the psychological states-outcome relationship.

It was found that internal work motivation was a function of the sum of psychological states times the valence of each state. The relationship was not significant, however, for the other outcomes. The measures of valence of psychological states could provide valuable information about a person's response to specific stimuli, which would be more likely to predict intentions, motivation and behaviour, than would global personality traits or needs. The valence of the three critical states might be interpreted as a measure of the degree to which individuals obtain intrinsic satisfaction from effective performance in jobs that are designed to allow them to work towards challenging goals, work autonomously, and to use feedback as a guide to their performance, and consequently should be a predictor of performance. The researchers argued that this was consistent with achievement theory, and that the valence of the psychological states might be interpreted as a partial measure of need for achievement. They contended that this was consistent with social learning theory as well. The valences of psychological states could reflect an individual's

disposition towards creating of autonomous, challenging jobs with feedback for himself, and performing effectively when such conditions are present.

Because significant relationships were found among job dimensions, psychological states and outcome measures, the results indicated that previous findings were not an artifact of the order of the J.D.S. scales.

In summary, the researchers were not arguing that relationships did not exist among the above variables, but questioned what form those relationships took, and again suggested the use of hierarchical regression analysis in testing multiplicative versus additive models.

Several recent researchers have designed their research to explore further areas of concern elicited from some of the earlier studies on the job characteristics model. One such area of concern is the failure of the model to differentiate between objective and perceived task characteristics. Birnbaum, Farh, and Wong (1986) examined the convergent and discriminant validities of the J.D.S. job characteristics by comparing job incumbent perceptions and supervisory perceptions using confirmatory analysis with a wide sampling of employees in Hong Kong.

They hypothesized that the relationships between the job incumbents' job descriptions and the supervisors' job ratings could be represented by a model of five traits (core job dimensions) and two rating methods. Each measure was hypothesized to be caused by a method factor, a trait factor, and an error factor.

A confirmatory factor analysis of the model indicated an improper solution, and further analysis focused on a four-trait two-method model where significance was excluded. The exclusion of significance was based on the fact that it seemed to be the cause of the misfit, and that, as well, significance had not been included in the original formulation of the job characteristics model by Hackman and Lawler (1971).

When method and error variances were held constant, all task dimensions (excluding significance) were demonstrated to have convergent validity, suggesting that both J.D.S. and J.R.F. were measuring a common set of characteristics. The J.R.F. measures, however, contained less method variance and greater trait variance than did the J.D.S. measures, indicating that supervisors would be better able to distinguish these dimensions than incumbents.

Birnbaum et al. also found that with measurement errors controlled, the core job dimensions were

moderately to highly correlated with each other, and particularly so for autonomy and variety.

The correlations between the J.D.S. task dimensions and work satisfaction were higher than those between the J.R.F. dimensions and work satisfaction. The finding, however, that all of the job characteristics as reported by supervisors were significantly correlated with work satisfaction as reported by job incumbents, was considered to be clear support for the contention that job enrichment enhances work satisfaction.

Gerhart (1987) used longitudinal data to assess the impact of changes in job complexity on job satisfaction, and, in doing so, compared a self-report complexity measure with an independent complexity measure. After correcting for measurement errors, the findings indicated that changes in job complexity as measured by both self-reports and the independent measure were important determinants of job satisfaction, minimizing the likelihood that the complexity-satisfaction relationship could be explained in terms of measurement. Certain dispositional factors such as pay, occupational status, and previous job satisfaction were also examined as possible determinants of current job satisfaction, and although previous job satisfaction predicted current satisfaction, pay and status made no difference.

Gerhart concluded that there was no direct evidence for the importance of traits as determinants of job satisfaction.

In another study, Gerhart (1988) used longitudinal data to assess the convergent validity of the perceived job characteristics measure by comparing it to an independent measure. As well, he assessed discriminant validity by examining the relationship between the perceived job characteristics and a range of individual and situational variables controlling for the independent complexity measure. Gerhart hypothesized that perceived job characteristics would be a function of several variables such as unemployment experience, tenure, education level, and wages and hours worked.

The results indicated that the perceived job characteristics measure demonstrated a statistically significant degree of convergence with the independent measure of complexity, although it was not strong in terms of the variance explained. Discriminant validity of the perceived characteristics measure was evidenced by the general lack of support for the hypotheses relating this measure to the individual and situational variables. Gerhart concluded that changes in perceived job characteristics were a function of changes in job characteristics as measured by job analysis, and were

largely unaffected by other situational and individual factors.

The factor structure of the five core job dimensions of the J.D.S. is another area that has caused some concern. Harvey, Nilan, and Billings (1985) used confirmatory factor analysis to test several different competing factor models of job dimensions. Using four indices of fit, the results indicated that Hackman and Oldham's (1976) factor structure provided a plausible representation of the data when modified to include factors to account for construct irrelevant method variance. When Dunham's (1976) general factor hypothesis was also modified to account for method variance, it was superior to the Hackman and Oldham model when using the parsimonious fit index. The researchers concluded, however, that both approaches were useful in representing the underlying structure of the J.D.S., depending on criterion.

Harvey et al. also concluded that the three different response formats in the J.D.S. resulted in substantial amounts of construct-irrelevant method variance. They recommended that the wording of the negatively scored items should be reversed, and the three anchor items rewritten to seven anchor rating scale, in order to have more consistency in the J.D.S.

Fried and Ferris (1986) also explored the dimensionality of job characteristics. They investigated variation in job characteristics across job categories using confirmatory factor analysis. They concluded that a three-factor solution was found to best match an a priori structure. This solution retained task identity and job feedback as legitimate dimensions, but the third dimension was a combination of skill variety, task significance and autonomy in a single factor. Fried and Ferris had also looked at how certain personal and situational variables affected the perception of task characteristics, and found that age, education and position level did influence the ability to differentiate among job characteristics.

Another investigation of the dimensionality of the J.D.S. was done by Idaszak and Drasgow (1987). They did three studies: the first done in order to investigate whether measurement artifacts distorted the factor structure of the J.D.S., the second study completed in order to replicate the first study with an independent sample, and the third study done to determine the effects of a revised J.D.S. where reverse scoring items had been rewritten.

Factor analyses identified five factors which corresponded to the pattern expected for the J.D.S.

items, as well as a sixth factor, identified as a measurement artifact. When the revised survey was administered, the a priori five-factor solution was obtained with no artifact factor. The researchers also computed the scale-factor correlations, indicating the revised J.D.S. scales measured their underlying constructs with reasonable accuracy. Idaszak and Drasgow recommended the use of the revised J.D.S. in future research concerned with task characteristics.

Hogan and Martell (1987) designed a study to compare competing interpretations of the job characteristics model, and to test the model more comprehensively than in previous research. Structural equations analysis was used to compare competing versions of the job characteristics model on a sample of 208 white-collar government employees using the Job Diagnostic Survey as the primary data collection instrument. Results indicated that no power was added by the inclusion of feedback from others and dealing with others. Evidence did not support the utility of growth needs as moderators in the job characteristic-satisfaction chain in spite of a "liberal" analytic procedure, although it was cautioned this might have been sample specific. The mediating variables were useful in explaining variance in the data with the

exception of experienced responsibility. The utility of retaining task identity in the model appeared marginal. A reverse causality model was tested and received no support, but might have been more adequately tested with a longitudinal design.

In comparing models, three appeared to meet their defined criteria of utility better than alternative formulations. These included a basic job characteristics model with mediating psychological states but without interaction terms, a subset of that model, and a single factor model. The fact that a single factor model could account for variations in the data as well as the basic job characteristics model represented a threat to the job characteristics theory. The single factor model was derived from Salancik and Pfeffer's (1978) argument that social influence affects responses to the J.D.S. The single factor model may have represented something quite different, however, such as common method variance. The researchers suggested that job characteristics data need to be explored more thoroughly.

Longitudinal research on the job characteristics model has been somewhat limited, but several studies which have been done will be reviewed. Hall et al. (1978) looked at the effects of changes in departmental and job characteristics over a ten-month period in a

government ministry undergoing top-down reorganization. Measures of job characteristics, higher order need strength and outcome variables were gathered at three different points of time from when the changes were first introduced to when most of the new conditions had stabilized. The results indicated that changes in job characteristics were not related to changes in perceived effort, performance and satisfaction, but were to job involvement. The measure of higher order need strength was looked at as a dependent variable, and not found to have changed following changes in job characteristics. It was interpreted that because the change was imposed from the top, those departments in which no change occurred revealed more favourable work attitudes, and that there was a general decline over time in the favourableness of attitudes. Because much uncertainty existed at the time which likely affected results, it would have been beneficial to look at the results at a later point in time when longer term positive effects of change might have been demonstrated.

The researchers did not report the changes in perceived task characteristics over time. It would have been interesting to look at these figures to determine whether those jobs which were objectively changed resulted in corresponding changes in perceptions. Even

without this information, the study certainly points out the significant influence of organizational factors on the job characteristics-job outcome relationship.

Griffin (1981) investigated the stability of individual perceptions of task characteristics and the stability of individual reactions to these perceptions at two points of time. The results indicated that individual perceptions of task characteristics are relatively stable over a three-month time period. The findings also indicated that individual reactions to perceived task characteristics are less stable and more complex, both in terms of a direct relationship and as moderated by individual growth need strength. The author suggested that this would indicate the need for an expanded view of individual-task interactions, or as in the above study, that organizational or other factors have a significant impact on the task-outcome relationship.

The moderating effects of participation on the job characteristics-job satisfaction relationship were investigated by Griffith (1985) in a longitudinal field experiment. Griffith considered participation in the design of the work to be a contextual variable that could be predicted to moderate the relationship. This was based on previous findings that participation was a

motivational technique that had positive effects on satisfaction and productivity, and based on Hackman and Oldham (1980) who suggested that participation in the redesign of work enhanced positive effects of job scope.

In a 2 x 2 experimental test, seventy-six employees were randomly assigned and participated in the redesign of their jobs or did not, and/or their jobs were actually redesigned or were not. Hackman and Oldham's (1980) general, growth and contextual satisfactions, as well as internal work motivation were measured as a pretest. Three months following the interventions, the complete J.D.S. was used to measure the core job dimensions, critical psychological states and the outcome measures. Analysis of variance was used to assess the differences in groups.

The results indicated that job redesign produced significant main effects on growth satisfaction and overall satisfaction, but not on context satisfaction. Participation was more limited in the effects, but did positively affect general satisfaction using Hoppock's (1935) scale. The absence of any interaction effects indicated that participation did not moderate the effects of job redesign as predicted. The researchers argued that this may have been because only small changes in the job were possible to make, the

participation manipulation consisted of only a single meeting, and that some of the novelty of the redesigned jobs may have worn off by the time of the second data collection, three months later.

The moderating effects of G.N.S. on productivity were investigated in an experimental field test by Graen, Scandura, and Graen (1986). The researchers argued that it would be an incremental challenge offered to high G.N.S. employees, and not the absolute level of task characteristics or M.P.S. that would result in more positive outcomes. Leader-member exchange was a leadership intervention which encouraged and enabled leaders to offer vertical collaboration to each employee. It was hypothesized that higher G.N.S. employees would show greater gains in productivity (quantity and quality) when offered an opportunity for growth by their supervisors.

Participants were assigned to either the control or the intervention condition. The intervention consisted of training managers in the leader-member exchange program, with subsequent individual meetings with employees, the purpose of which was to improve the level of reciprocal understanding and helpfulness regarding job issues and behaviours resulting in a growth opportunity. Growth need strength and productivity,

indicating both quantity and quality, were measured prior to treatment and 32 weeks later.

The results obtained through moderated multiple regression demonstrated statistically significant interaction effects between G.N.S. and growth opportunities. Only high G.N.S. employees responded to the growth opportunity with a 55% increase in quantity, as well as a decrease in the number of errors in their work.

Gerhart (1987, 1988) also used longitudinal designs in his two studies where no support was provided for the importance of traits as determinants of job satisfaction, and the convergent and discriminant validity of the perceived job characteristics measure were demonstrated.

The above discussion reviewing research on the job characteristics approach has indicated that there is evidence for support of the Hackman and Oldham model, although the results are not consistent. A more thorough discussion and analysis of some of the problems of the model will be covered in the next section.

Criticisms of the job characteristics approach.
The job characteristics model is currently one of the most popular approaches to job design, and because of that, considerable research has been done investigating

the model. The research has indicated some problems with the model, and the approach, as a result, has received a significant amount of criticism. This criticism ranges from relatively mild criticism concerning such problems as measurement, the method of data analysis and other methodological problems, to more severe criticism which raises more fundamental concerns about the theory itself. These problems and criticisms will be described briefly below.

The first problem identified is that of common method variance and measurement artifacts. Self-reporting for dependent and independent variables tends to result in common method variance (Salancik & Pfeffer, 1977; Pierce & Dunham, 1976; O'Connor et al., 1980; Hogan & Martell, 1987). Roberts and Glick (1981) describe the research as plagued with common method variance. Salancik and Pfeffer (1977) argue that much of the data reported may be as a result of the response artifacts of consistency and priming. Consistency artifacts result from the tendency of individuals to organize their responses in consistent ways so that when answering questions they tend to answer additional questions so as to be consistent with past answers. Consequently the ordering and spacing of questions may help in decreasing this consistency effect.

Priming effects occur when an interviewer orients a respondent's attention to particular information in questioning, which results in various aspects of the information becoming more salient. Measuring attitude responses first and using a variety of other measures may help minimize this effect.

Salancik and Pfeffer (1977) claimed that the order in which questions were asked in previous research was not reported, suggesting researchers' insensitivity to this problem, and a lack of systematic attempts to deal with it. Arnold and House (1980) have argued against this, when, after purposefully reordering questionnaire items in their study, they found that the relationships among variables were in the predicted direction and consistent with previous results. In addition, Stone and Gueutal (1984) assessed priming and consistency artifacts in a laboratory experiment by randomly assigning subjects to one of four treatment conditions, each of which corresponded to a different ordering of the J.D.S. measures. Their results showed negligible effects on the mean values of measured variables, and no effects on correlations between variables, leading them to conclude that priming and consistency artifacts need not be a serious concern in research on need satisfaction models.

Fried and Ferris (1987), in a review and meta-analysis of research on the job characteristics model, concluded that studies have indicated that varying the order of questions does not influence subjects' responses. They also argued against Robert and Glick's (1981) criticism of common method variance. Fried and Ferris found that the relationships between critical psychological states and psychological outcomes were greater than the relationships between job characteristics and critical psychological states. This was inconsistent with Robert and Glick's contention that because the wording between job characteristics and critical psychological states was particularly similar, this would result in stronger relationships between these two sets of variables than those between critical psychological states and psychological outcomes.

Another area of significant concern has been the intercorrelation of the job characteristics and the resulting number of variables. Dunham (1976) found skill variety and autonomy had relatively high scale interscale correlations, and projected upon the interscale correlations to propose unidimensionality of job characteristics. Dunham, Aldag, and Brief (1977) demonstrated two, three, four and five factor solutions

concluding that the number of factors may vary with the sample.

More recently, Harvey et al. (1985) found that the J.D.S. factor structure provided a plausible representation of their data when modified to include factors to account for construct irrelevant method variance. They found that Dunham's (1976) general factor hypothesis when modified to account for method variance was superior using the parsimonious fit index, and concluded that both approaches were useful. Birnbaum et al. (1986) concluded that a modified four-trait model fit their data better than the five-trait model suggested by the job characteristics model. Idaszak and Drasgow (1987) supported the five dimensions of J.D.S. when a sixth dimension identified as a measurement artifact was corrected using a revised J.D.S. scale. Fried and Ferris (1986) suggested that a three-factor dimensionality was most appropriate with skill variety, task significance and autonomy being combined. They also demonstrated that person and situational variables were found to influence the ability to differentiate among job characteristics. In a review and meta-analysis of nearly 200 studies, Fried and Ferris (1987) agreed with Dunham et al. (1977) that a multidimensional solution of some sort appeared to be

most appropriate, but studies which failed to support the model tended to suggest smaller numbers of dimensions.

A problem identified by Hackman and Oldham (1976, 1980) is that the J.D.S. was constructed so that reliabilities of the job characteristic measures would be fully satisfactory when the responses of five or more individuals who were working on the same job were averaged. Scale reliabilities are only marginally acceptable for data collected from single individuals, and consequently, the instrument should not be used by itself for the redesign of individual jobs.

The value of calculating the M.P.S. as proposed, and of the multiplication of the scores of the three critical psychological states appears to be questionable (Hackman & Oldham, 1976; Roberts & Glick, 1981; Arnold & House, 1980). Hackman and Oldham (1980) state that because job characteristics are not independent, the multiplication formula for M.P.S. is compromised. In comparing a linear, conjunctive and disjunctive model, Brief et al. (1976) concluded that the linear (simple additive) model was as powerful a predictor of evaluative judgements as were non-linear alternatives, and consequently should be used in job enrichment research.

Ferris and Gilmore (1985) compared three methods of computing job complexity, and concluded that moderation effects were more likely to be detected when using a multiplicative job complexity index than when using an additive strategy.

The simple additive job complexity index was found by Fried and Ferris (1987) to have generally stronger relationships with psychological outcomes and performance than did the M.P.S. They also concluded that further research was required to determine whether all three psychological states were necessary to maximize prediction of outcomes, as results to date had been contradictory (Arnold & House, 1980; Hackman & Oldham, 1976).

Many researchers in testing the model have ignored the intervening variables or critical psychological states. Hackman and Oldham (1976) found that the relationship between the core characteristics and outcomes were stronger when mediated by the critical psychological states, and considered these states as the central point of the model (1975, 1976, 1980).

Research has supported the predicted relationships between the core job characteristics and the critical psychological states (Hackman & Oldham, 1975, 1976; Arnold & House, 1980). The relationships, however, have

not been as discriminating as the model states. Task identity and experienced responsibility did not correlate as expected with other variables (Hackman & Oldham, 1976; Brief & Aldag, 1975). Arnold and House (1980) found that experienced responsibility was affected by all five core characteristics; that knowledge of results was also affected by the task characteristics of skill variety, task identify, significance and autonomy; and that meaningfulness was affected by autonomy.

Fried and Ferris (1987) following their review and meta-analysis of the relevant research, concluded that there is partial support for the relationships between the core job characteristics and the critical psychological states. Experienced responsibility and to a lesser extent experienced meaningfulness had mixed relationships with their specified and unspecified job dimensions. Knowledge of results appeared to be mainly related to its specified dimension of job feedback.

The fact that anomalies have been found in the way that job characteristics affect the psychological states has been acknowledged by Hackman and Oldham, 1980. They state that some characteristics appear to affect psychological states other than those specified in the model, and some of the psychological states are

influenced by the job characteristics other than those specified in the model.

Fried and Ferris (1987) concluded that the relationships between the psychological states and psychological outcomes were stronger than the relationships between the core job dimensions and those outcomes. All three psychological states showed stronger correlations with overall job satisfaction than any of the core dimensions, and experienced meaningfulness and responsibility correlated more strongly to internal work motivation and growth satisfaction than did the individual job characteristics. In addition, experienced meaningfulness demonstrated stronger relationships with all of the psychological outcomes than did M.P.S., and experienced responsibility demonstrated stronger relationships with overall job satisfaction and internal work motivation than did M.P.S. The relationships between the critical psychological states and performance, however, appeared to be negligible in comparison to the relationships between job characteristics and performance.

Hogan and Martell (1987) compared the basic job characteristics model to a model without mediating psychological states, and concluded that the basic model

was preferable in that it allowed more accurate prediction of job satisfaction.

Although, as stated previously, much of the previous research has not included the critical psychological states, and there are anomalies in the predicted job characteristics-critical psychological states relationships, there is, nonetheless, support for the inclusion of the critical psychological states as intervening variables.

Many researchers have found that the basic relationships between job characteristics and job outcomes have been positive (Hackman & Lawler, 1971; Hackman & Oldham, 1976; Brief & Aldag, 1975; Stone, 1976; Brief et al., 1978; White, 1978; Ganster, 1980; Roedel & Nystrom, 1988). The possibility of a curvilinear relationship, however, has been suggested by Pierce and Dunham (1976), and has been demonstrated by Champoux (1980).

In a meta-analysis of 28 studies designed to determine statistically the "true" relationship between job characteristics and job satisfaction, Loher et al. (1985) found that there was a moderate relationship between job characteristics and job satisfaction lending some support for efforts to increase job satisfaction through the use of job enrichment.

Stone (1986) compared the convergence of job scope-job outcome relationships between laboratory- and field-based research. He found that job scope related more strongly to satisfaction with work itself than with the broader satisfaction criterion in both lab and field experiments, and that variety and autonomy were as effective as job scope in predicting overall satisfaction, but less effective than job scope in predicting satisfaction with work itself. Stone concluded that the overall pattern of results was consistent, and that job scope was a strong predictor of affective responses, but not of job performance.

Fried and Ferris (1987) also found that the results of meta-analysis indicated moderate to strong relationships with psychological outcomes. Job feedback appeared to have the strongest relationship with overall job satisfaction, autonomy was most strongly related to growth satisfaction, and skill variety had the strongest relationship with internal work motivation. M.P.S. demonstrated stronger relationships with affective outcomes than any of the individual dimensions. Job characteristics showed much weaker, although meaningful relationships with behavioural outcomes. The researchers suggested that the stronger relationships with affective outcomes may have resulted from common

method variance, or because contextual factors might substantially influence the relationship between job factors and behavioural outcomes.

In summary, it would appear that the relationships between job characteristics and job outcomes have generally been positive, although more consistently and more strongly so for affective outcomes than for behavioural outcomes.

The analytical procedures used in testing the job characteristics model have also been criticized. In particular, the split group correlations for testing of moderating effects has been criticized, and the use of moderated hierarchical regressions has been suggested (Arnold & House, 1980). The lack of unreported results has been criticized by White (1978) and Roberts and Glick (1981). Roberts and Glick criticize the dropping of the middle third of a sample as an analytical procedure for testing moderating effects.

Other methodological problems include the fact that most investigations were cross-sectional where as longitudinal research would be indicated (Pierce & Dunham, 1976; Roberts & Glick, 1981), that studies discussing individual responses measured groups responses (Pierce & Dunham, 1976; Roberts & Glick, 1981), and that within person research has been tested

by assessing person-situation responses (Roberts & Glick, 1981).

More serious criticism involves the moderating affect of G.N.S. The results of the effectiveness of the G.N.S. as a moderator are somewhat mixed although often some general support has been found (Hackman & Oldham, 1976; Oldham, Hackman, & Pierce, 1976; Brief & Aldag, 1975; Abdel-Halim, 1979). Arnold and House (1980) found support for the moderating effect only at the first point in the model. White (1978), in a review of the research, concluded that because most groups tend to respond in the same direction anyway, G.N.S. is not an effective moderator. He found moderating effects to be modest and inconsistent and that moderators were effective for specific samples and situations.

More recently, Hogan and Martell (1987) found no support at all for the moderating effect of G.N.S. using "liberal" analytical procedures. In their meta-analysis, Loher et al. (1985), however, concluded that G.N.S. acted as a moderator between job characteristics and job satisfaction and that this could be stated with some confidence. They noted that factors such as external situational characteristics were not relevant for persons with high G.N.S., but did affect the relation between job characteristics and job

satisfaction for those with low G.N.S. Fried and Ferris (1987) found that potential moderators should be explored in the relationships of skill variety and autonomy to overall job satisfaction, but only in the case of job performance was there consistent statistical legitimacy for examining moderating influences.

O'Connor et al. (1980) concluded that the failure to find moderating effects may be due to the task design and the tools, and not the conceptual framework. They suggested that individual differences be looked at as predictors as opposed to moderators. Hackman and Oldham (1980) stated that the problem of scattered evidence for proposed moderating effects was not because there were not important differences among people in responding to enriched jobs, but it was because of difficulty in determining how best to construe and measure those differences.

One of the most serious criticisms of the job characteristics approach is that there are substantial differences between objective and perceived job characteristics. Hackman and Oldham (1975) recognized the significant differences in ratings among supervisors, researchers and job incumbents. In subsequent testing and implementation of their approach, Hackman and Oldham (1980) suggested the use of the job

rating form to compare objective and perceived characteristics. The failure to measure objective task characteristics has been mentioned by both Pierce and Dunham (1976) and Roberts and Glick (1981) in their reviews. The study by Brief et al. (1978) comparing task perceptions and job behaviours indicates the significance of the difference between objective and perceived job characteristics. The fact that the model does not differentiate between objective and perceived characteristics is recognized by Hackman and Oldham (1980) who state that it is not known whether the benefits of enriched jobs stem from the objective task characteristics or from employee perceptions of these characteristics.

O'Connor et al. (1980) argued that current evidence indicates that perceived task measures are affected by variables other than objective tasks, and that the variance in perceived task measures is due to main effects of individual difference variables or interaction of these variables and objective task characteristics.

The importance of other factors entering the job characteristic-job response relationship has been pointed out by many researchers. Pierce and Dunham (1976) suggested that technological and organizational

factors also moderate the relationship. Roberts and Glick (1981) criticized the research that has been done as ignoring contextual characteristics and social influences. In addition, longitudinal studies by Hall et al. (1978) and Griffin (1981) both indicated that organizational and perhaps other individual factors also influence the job characteristics-job satisfaction relationship.

Much of the more recent research on the job characteristics approach has focused specifically on the differences between the objective and perceived job characteristics and has further explored the problems of self-reporting to determine the impact of these factors on the job characteristics approach.

Birnbaum et al. (1986) found that the correlations between self-report job characteristics and job satisfaction were higher than those between supervisory-rated job characteristics and job satisfaction indicating a possible common source problem or direct causal link. Analysis indicated, however, that the J.D.S. and J.R.F. were measuring a common set of job characteristics, and that incumbents performing the same job shared common perceptions of job attributes.

After analyzing the correlations among growth need strength, task characteristics and job satisfaction for

several studies, Loher et al. (1985) concluded the correlations were not significantly inflated because of reliance on self-report measures.

Fried and Ferris (1987) reviewed the research on objective versus perceived job characteristics, irrelevant cues and job perceptions, and objective and perceived job characteristics-work outcomes relationships. They concluded that there was a moderate to good overlap in the comparison of incumbents' ratings to others, and that objective changes in the job affected the perception of job characteristics in the direction of change. Research indicated that, cues and possibly personal factors and the level of job satisfaction, did have some effect on perception of job characteristics. Fried and Ferris agreed with Griffin (1983), however, that this did not exclude the potential influence of objective characteristics of the job. The fact that studies have demonstrated similarity in the relationships of incumbents' job ratings and others' job ratings to potential criterion variables, as well as having provided data supporting the impact of objective manipulation on attitudinal responses, has led Fried and Ferris to suggest that problems associated with self-rated data are less serious than initially believed.

Gerhart (1988) has concluded as well that perceived job characteristics are related to job satisfaction largely because employees tend to be more satisfied with complex jobs, warranting greater confidence in the use of self-rated data to accomplish their original purpose of diagnosing jobs.

The most serious type of criticism against the job characteristic approach comes from researchers who have suggested that alternative models should be used. Roberts and Glick (1981) suggested the development of a more general theory and situationally based taxonomy. Salancik and Pfeffer (1977) contended that need-satisfaction models of job attitudes were frequently formulated so that they were almost impossible to refute. They claimed that, although the evidence may validate these models, the evidence could also be consistent with other theories. In addition, they argued that the models have seldom been able to account for a substantial proportion of variance in behaviours or attitudes. Alderfer (1977) refuted this argument, recognizing that the failure to explain more variance might be due to imperfect reliability of measurement, but it was also due to the incompleteness of need and expectancy theories as explanatory frameworks. The incompleteness did not refute the theory, but was an

argument for improved measurement and additional explanatory propositions.

Salancik and Pfeffer (1977) argued as well that the needs-satisfaction approach to designing jobs to fit individual needs was inflexible. They contended that people have the capacity to provide their own satisfaction by cognitively restructuring situations, and that other alternatives exist for matching the job to the person other than simply redesigning the job.

Hogan and Martell (1987) found that a single factor model based on Salancik and Pfeffer's (1977) argument, could account for the variations in the data as well as the basic job characteristics model. They considered these findings a threat to the job characteristics model, but also questioned whether common method variance accounted for their results, and suggested the use of diverse methods of data collection.

White (1978) suggested a reversed causality, stating that employees with high internal motivation and satisfaction might seek out higher quality jobs, as well as report more favourable characteristics.

O'Connor et al. (1980) suggested as well that employees tend to select themselves into jobs that fit their needs and abilities, and that organizations often select individuals according to individual

characteristics. They suggested, however, that this did not invalidate the theory, but that it is for the reasons above, that the chances of finding a moderating effect are significantly decreased. O'Connor et al. encouraged more research on the model, suggesting, however, that broader ranges of individual differences and task scopes, and more absolute means of measurement be incorporated into the research design.

There is obviously disagreement with those concerned about the job characteristics approach as to whether an expanded model or an alternative model would better describe the job characteristics-job outcome relationship. Two alternative models which continue to be explored and merit further consideration are the social information approach and the reciprocal causation model. These models will be discussed in the section following.

This section has reviewed the job characteristics model, and the substitution of achieved work values for the critical psychological states, and the importance of work values for the measure of growth need strength has been suggested.

As can be seen from the above discussion, however, a number of problems exist with the job characteristics model. Some of these problems relate to

the design, methodology and analyses used, and to a large extent can be controlled in future research. Of major concern is whether or not growth need strength acts as a moderator, and as suggested in previous discussion, the examination of other potential moderators in the model would be indicated.

The most serious criticisms of the model involve attacks on the fundamental premises of the model, and suggest that further use of the model needs careful consideration. The next section, then, will consequently review two alternatives to the job characteristics model.

Alternatives to the Job Characteristics Approach

As a result of criticism of the job characteristics model, a number of alternative models have been developed and proposed. This section will briefly review two of these, including the social information approach and the reciprocal causation model.

The social information approach. The social information approach described by Salancik and Pfeffer (1978) addressed the distinction between objective and perceived measures of task. From the social information perspective, the objective task is assumed to be an antecedent construct, which plays a limited role in

influencing task perceptions or satisfaction. The assumption is that cues serve to define the salience of the objective task and manner in which it is perceived and reacted to. The social information approach would suggest then that there is no strong linear relationship between the objective task and perceptions and reactions. The relationship depends on what social information tells the individual it should be.

The social environment influences individual responses by providing cues as to what dimensions might be used to characterize the work environment, how much weight the various dimensions should be given, how others evaluate the work environment on each of the dimensions, and whether the work setting is positive or negative along the various dimensions.

Salancik and Pfeffer argue that needs are an outcome produced by a person rather than a property inherent in him, and take place in a social context. Needs and attitudes result from the individual's perception and judgement of the affective components of the job or task environment, the information the social context provides about what attitudes are appropriate, and the individual's self-perception of the reasons for his past behaviour. Through these informational and social influence processes, the social context can

affect beliefs about the nature of jobs and work, about what attitudes are appropriate, and about what needs people ought to possess. Through pressures of conformity, attitudes or behaviours may be exhibited which can go on to result in later cognitive reconstruction processes. Perceptions are molded to fit available cues on past behaviours and attitudes of the self and others, and individuals have the ability to construct their own satisfaction through selectively perceiving and interpreting their social environment and their own past actions.

In summary, the implications for the job characteristics approach are that the perception of job characteristics, as well as job attitudes, may only be somewhat related to the objective job characteristics because of the social information influence and the ability of individuals to cognitively restructure situations.

The informational influence as a determinant of perceived task characteristics and job satisfaction was explored in a laboratory experiment by O'Reilly and Caldwell (1979). The researchers hypothesized that informational cues were more important determinants of perceptions of task characteristics and job satisfaction than were objective characteristics. The results

indicated the amount of variance explained by the impact of objective task characteristics on satisfaction was approximately half the amount explained by the informational cues. It must be pointed out, however, that the strength of the information cue manipulation in this laboratory experiment was likely much higher than the informational influence would have been in an actual setting. The actual potency of the manipulation could not be determined, but the results indicate, nonetheless, that to at least some extent, job characteristics may be socially constructed realities.

White and Mitchell (1979) investigated the effects of two types of social cues and two levels of job enrichment on perceptions of job enrichment, job ambiguity, job satisfaction and productivity in a 2 x 2 factorial research design. The results indicated that although actual job factors and cues both had significant effects on enrichment perceptions, the effect of actual job factors was more significant. Social cues, however, were more significant in determining job satisfaction, leading the researchers to conclude that employee perceptions of the task environment are a joint function of objective task characteristics and social cues.

The effects of objective task changes and informational cues from supervisors on task perceptions, affective responses and productivity were examined in a field experiment by Griffin (1983). Task perceptions and affective responses were significantly influenced by both objective task changes and informational cues, but more so by the objective task changes. Some interactive effects were detected, and productivity was found to be influenced by objectives task changes only.

In a review of the literature, Thomas and Griffin (1983) noted that most of the research to date had consisted of laboratory studies and there had not been as much support for the model in the field. There was evidence that when a task was similar to one performed previously, then it was less easy to influence through social cues. In other words, tasks in the real situation were likely to be less easily influenced than tasks in laboratory experiments which were unfamiliar to subjects. It was also recognized, however, that information might be more salient, and group pressure to conform might be greater in the real setting. Nonetheless, the fact the field research did not have strong support indicated the need for critical assessment of the generizability of the laboratory results, particularly given the strength of manipulation

cues. The authors noted that a number of questions such as the roles of different sources of information, effects of differences in how cues are obtained, conflicting cues, and the dynamics of social and information cues over time had largely been unanswered. The authors concluded that the majority of research reviewed offered support for an overlapping viewpoint of models of task design.

More recently researchers have looked at some of the questions raised by Thomas and Griffin, and an overlapping model has also been explored.

Ferris (1985) conducted a laboratory experiment to investigate the effects of observer presence and subject sex on performance, job satisfaction and task perceptions. The results indicated that females tend to perform better when working alone, while males performed better when an observer was present. The presence of an expert observer making salient and focusing subjects' attention on the significance of the task was found to result in significant observer effects for task significance perceptions. Effects were not found, however, for any other task characteristic perceptions nor on job satisfaction.

Vance and Biddle (1985) looked at the interactive effects of social cues and task experience on task-

related attitudes in a laboratory study. Their findings demonstrated that as subjects gained more task experience relative to receiving social information, the social information had less impact on task-related attitudes. Vance and Biddle concluded that the results supported an attitude formation process in which individuals utilized whatever information was available and relevant to the attitude, whether obtained through direct experience or cues.

The social information approach and job characteristics approach were compared in a study by Glick et al. (1986), in which the relative strengths of method versus substance on relationships between job characteristics and attitudinal outcomes were determined. Reports from both job incumbents and non-incumbents on job characteristics and job attitudes were analyzed using multiple regressions and structural equations. The results indicated that there were underlying relationships between job characteristics and attitudinal outcomes, and that changing actual job characteristics would likely lead to substantive improvements in challenge satisfaction and effort, results which supported the job characteristics model. The multiple regressions did not reveal strong method effects, but the structural equations indicated that

when method effects were removed, the predicted variance, particularly in general satisfaction, dropped dramatically. This finding supported the social information approach, and the researchers concluded that research designs should consider different data sources and multiple methods in order to determine potential method effects.

Griffin et al. (1987) conducted a laboratory experiment in which objective task properties, social information, and changes in both, were manipulated in order to determine the merits of an integrated perspective derived from the job characteristics and social information processing models. Using MANOVA analysis, clear and consistent support was found for this integrated perspective. The findings were strengthened by the experimental design which used valid and controlled manipulations, and a focus on changes to both objective job characteristics and social information, as opposed to a static design.

The researchers concluded that their findings were consistent with many of the results obtained in earlier studies. Their study, combined with the results of the study by Glick et al. (1986) in particular, which completely and directly demonstrated the combinatorial effects of an integrated framework, was believed to

provide a meaningful integration of previous research. Griffin et al. concluded that task characteristics and social cues do combine to affect people's reactions to jobs, and that introducing constructive changes can produce those reactions. The results underscored the need for the formulation and specification of a unified theory of task design.

Reciprocal causation model. A reciprocal causation model was proposed by James and Jones (1979), in which job perceptions comprised of challenge, autonomy and importance were viewed as measures of the psychological climate of the job. Psychological climate is defined as the psychologically meaningful cognitive representations of situations and is based on cognitive social learning theory.

James et al. (1978) discussed the properties of psychological climate and noted that it is analogous to higher order schemas which are relatively abstract and generalized beliefs about situations based on the continuously interacting process of perception, learning and memory. Psychological climate intervenes between situation attributes and individual attitudes and behaviour, and reflects psychologically meaningful, cognitive representations or interpretations of situations. It is historical, and, as such, must

balance between the desire to preserve valued and familiar schemas, and its openness for adaptive and functional purposes. Finally, the underlying causal model linking psychological climate to attitudes and behaviour is also one of reciprocation. Emphasis is placed on the psychological climate, as it is believed that these higher order perceptions are the primary determinant of an individual's responses to a situation.

In the model proposed by James and Jones (1980), the psychological climate measured by job perceptions was seen to be caused by job attributes, workgroup structure, job satisfaction and certain individual characteristics. Job satisfaction was viewed as a cause of job perceptions as job satisfaction would predispose the individual to construct and maintain a psychological climate consistent with existing or desired levels of satisfaction. Individual characteristics were seen to be causal, as the psychological climate would be constructed in order to be compatible with factors such as existing values, beliefs, needs and attitudes. Specifically, it was proposed that individual characteristics such as need for achievement, self-esteem, and importance of job challenge, and job involvement were directly causal of the job perceptions of challenge, autonomy and importance. James and Jones

disagreed with Hackman and Oldham (1980) and others who have suggested these individual characteristics moderate, but believed they are directly involved in higher order perceptions. Job perceptions, certain individual characteristics, and demographic variables were proposed to cause job satisfaction. Job satisfaction was proposed to be caused directly by perceptions of challenge, autonomy and importance which convey opportunities to satisfy needs for mental challenge, self-determination and recognition. These job perceptions already reflect the amount of experienced challenge, self-determination and recognition, and, consequently, James and Jones saw no need for intervening critical psychological states. One might argue, in fact, that James and Jones' psychological climate or job perceptions are, in fact, very similar to Hackman and Oldham's (1980) critical psychological states, and that Hackman and Oldham's job characteristics intend to measure characteristics closer to the job than do James and Jones' job perceptions.

Attitudes were also thought to be predisposed toward increasing, maintaining or confirming cognitive congruency with more basic values, beliefs and norms, and it was predicted that those with high job involvement, those with high compliance, and those with

a belief in the probability of promotion would be predisposed to have positive affect towards a job. It was also proposed that relatively low levels of education would predispose individuals toward higher levels of satisfaction, since these individuals would require less inducements for satisfaction.

The heterogeneous sample of 642 completed questionnaires in order to measure job perceptions, job satisfaction and individual characteristics. Job attributes and work group structure data were provided by supervisors. The data were analyzed using a two-stage least squares 2SLS analysis (James et al., 1978). The results indicated that job perceptions and job satisfaction were significantly correlated with many of the individual and demographic variables as predicted, generally supporting the model. The analysis also indicated that other unmeasured causes existed for both variables. Although there was a possibility that other models might have fit the data, criteria were satisfied for drawing causal inferences. Increases in job complexity and job pressure, and decreases in specialization and standardization causally influenced job perceptions in the predicted directions consistent with other theories of job design.

Job perceptions were influenced causally by job satisfaction, achievement motivation and self-esteem. The results also indicated that job satisfaction was causally influenced by job perceptions, and additional analysis supported the hypothesis that individuals would respond more to perceptions of their environment, rather than the environment per se. Job perceptions appeared, however, to be a weaker cause of job satisfaction than vice-versa, and the researchers suggested that unidirectional models be revised to add a reciprocal causal link. Finally, except for the importance of challenge, the individual variables were found to be causal rather than moderators.

O'Reilly et al. (1980) hypothesized that individuals' frames of reference and general job attitudes would result in perceptive biases affecting the perceptions of job characteristics. They used a sample of 76 public health nurses whose jobs were assessed as being objectively similar and measured task characteristics, MPS and job satisfaction, as well as other items designed to assess the individual attitudes about professionalism and frame of reference. To determine frame of reference, such items as age, tenure, education and annual family income were obtained. Hierarchical regression analysis indicated there was some

support for concluding that varying frames of reference, conceptions of professionalism and job satisfaction do have a significant effect on the perceptions of job characteristics. As the public health nurses conceivably were performing the same job, it was argued that satisfaction was influencing the perception of job characteristics rather than the opposite.

Adler et al. (1985) described the results of the study by O'Reilly et al. (1980) as having limited use in demonstrating that work attitudes affect job characteristics perceptions because cross-sectional data were used, and because the premise that jobs were identical was questionable.

The extent to which perceptions of task characteristics reflected variations in job satisfaction was also explored by Caldwell and O'Reilly (1982) in a laboratory experiment and a field study. Perceptions of task characteristics and satisfaction were measured for subjects assigned to role playing either a satisfied or dissatisfied incumbent in the lab experiment, and for subjects responsible for the same set of tasks in the field study. Results indicated that those subjects in the lab experiment who were instructed to imagine themselves as satisfied, described an identical job as having more variety, autonomy, identity and feedback

than did those individuals who were in the dissatisfied condition. Similarly, the results in the field experiment indicated that either the content in the same job category varied significantly, or respondents who were more satisfied perceived their jobs as more enriched. The results also indicated that different aspects of satisfaction were associated with the perception of different job dimensions. The researchers pointed out, however, that these results did not suggest that objective job characteristics did not influence job satisfaction, but rather that the opposite relationship holds true as well.

Adler et al. (1985) examined the causal influence of cues concerning an individual's own task satisfaction, on subsequent task descriptions in a laboratory experiment in order to test the reciprocal causation effect. Subjects performed a laboratory task and completed a task satisfaction instrument, and then were randomly told whether their scores indicated a high or low level of satisfaction. The results showed that subjects given satisfaction feedback rated the task as higher in job scope on the Job Diagnostic Survey.

The researchers concluded that the results indicated that job characteristics-job satisfaction correlations based on a cross-sectional self-report data

cannot be unequivocally seen as support for the effects of job characteristics on satisfaction, as cues about one's satisfaction may affect the manner in which one describes one's job. The researchers pointed out that individuals may develop positive or negative feelings due to factors unrelated to work characteristics and distort descriptions to correspond to their satisfaction levels. They stated, however, that in studies with independently manipulated socially mediated cues and task characteristics, differences in task characteristics accounted for a greater percentage of variance in subsequent attitudes and perceptions than did social cues. Nonetheless, the fact that social cues can affect descriptions of job characteristics must be taken into account in examining the job characteristics-job satisfaction relationship.

Three alternative models of causal relationships between job perceptions and job satisfaction were tested by James and Tetrick (1986) using confirmatory analytic techniques. The models compared were a postcognitive-nonrecursive model in which job satisfaction occurred after job perceptions in the causal order, and job perceptions and job satisfaction were reciprocally related; a precognitive-recursive model in which job perceptions occurred after job satisfaction in the

causal order, and were effects but not causes of job satisfaction; and a precognitive-nonrecursive model in which job satisfaction occurred prior to job perceptions, and satisfaction and job perceptions were reciprocally related. The analysis supported the causal inferences that job satisfaction was postcognitive and that the causal relationship between job perceptions and job satisfaction was reciprocal. The researchers noted that this was not "proof", but that among the models they tested, the postcognitive-nonrecursive model was the only causal model that was useful for explaining the relationships between job perceptions and job satisfaction. These results were seen as empirical support which affirmed the beliefs upon which the job characteristics model and similar approaches were based.

The discussion on the social approach and the reciprocal causation model has been important in demonstrating that factors other than the objective task characteristics affect the perceived characteristics. This fact has always been recognized by advocates and researchers of the task characteristics approach, and the evidence demonstrated through these alternative approaches does not negate the job characteristics approach. As mentioned previously, Adler et al. (1985) have concluded that the evidence has indicated that

differences in task characteristics have accounted for more of the variance in perceptions and subsequent attitudes than have social cues. Griffin et al. (1987) have also concluded that task characteristics and social cues do combine to affect people's reactions to jobs, but this would point to an expanded model or overlapping viewpoint, rather than the rejection of the job characteristics model itself. An overlapping model is also consistent with the conclusion of James and Tetrick (1986), who, through their research on reciprocal causation models, have demonstrated further support for the beliefs upon which the job characteristics model is based.

Summary of Chapter One

The literature review focused on the job characteristics-job outcome relationship through a discussion of work motivation, job satisfaction, the job characteristics approach, and alternatives to the job characteristics approach. The use of the importance of, and the achievement of, work values in the job characteristics-job outcome relationship was explored in each of these areas.

Work motivation involves both internal and external forces acting on an individual to result in work-related

behaviour. Internal work motivation occurs when an individual engages in a self perpetuating cycle of work generated by internal rewards or satisfaction of higher level of growth needs. Locke has suggested that values are what direct man's actions to satisfy his needs, and it was argued that the importance of certain work values may actually be a closer indicator of whether or not, how, or how much one goes about fulfilling his higher order or growth needs, and whether or not an individual is likely to experience internal work motivation when other sufficient conditions exist.

The use of the importance of and the achievement of work values was also demonstrated to be appropriate in the review of several theories of job satisfaction.

Although Herzberg has been severely criticized for various aspects of his theory of job satisfaction, he has made a significant contribution to our knowledge in stressing the importance of psychological growth stemming from the work itself. In order to motivate and improve job satisfaction, one should be concerned about building opportunities for achievement, growth and responsibility into the job. Based on Herzberg's findings, the achievement of specific work values was suggested as a measure of the opportunities for growth

need fulfillment, and subsequent satisfaction and motivation.

The Porter/Lawler model of job satisfaction is based on the premise that internal and external forces affect the value an individual will have for a reward, and the perceived probability that the reward will come from a given effort, resulting in performance and subsequent job satisfaction. The substitution of importance of work values for values, and the substitution of achievement of work values for reward probability or expected outcome were suggested, as these were seen as comparable variables affecting job satisfaction based on the Porter/Lawler job satisfaction model.

Locke's work on the relationship of values to job satisfaction and other related research has indicated that certain aspects of values do combine to affect job satisfaction. Based on this research, the merit of further exploring value importance and the achievement of values in the relationship to job satisfaction would appear to be warranted.

Research on individual differences as moderators to the job characteristics-job outcome relationship demonstrated mixed results, but several researchers concluded that measures closer to employee reactions, or

those that would be more focused on the nature of the task itself, would be more likely to demonstrate moderating effects. Again, the importance of work values was suggested as an appropriate moderator, and a more specific measure than growth need strength.

The most popular current approach to job design is the job characteristics approach. Although there have been some problems with Hackman and Oldham's model, research has supported the continued use of this approach to the job characteristics-job outcome relationship.

A modified approach was suggested, however, particularly given the previous indication for the use of work values in the job characteristics-job outcome relationship. It was suggested that the importance of work values might be substituted for growth need strength, and the achievement of work values might be substituted for critical psychological states in the job characteristics approach.

Research on alternatives to the Hackman and Oldham model such as the social information approach and the reciprocal causation model has pointed to a more expanded or integrated model combining approaches. The basic assumptions and premises underlying the job characteristics approach, however, have been supported.

Hypotheses

The purpose of this study was to test a modification of a portion of the basic job characteristics approach with the substitution of the importance of work values for growth need strength, and the substitution of achievement of work values for critical psychological states, as has been indicated by the research. The job characteristics approach might be expanded to incorporate alternative models in acknowledgement of a number of other variables influencing the job characteristics-job outcome relationship, but it was beyond the scope of the present study.

The specific work values included were the use of ability and knowledge, meaningful work, contribution to society, responsibility, influence over work, independence in work, and achievement.

Based on theory and research which are summarized in the model (Figure 3), it is hypothesized that:

1. Job characteristics will be positively correlated with internal work motivation, overall job satisfaction, satisfaction with work, and satisfaction with the job.
2. Job characteristics will be positively correlated with the achievement of work values.

3. The achievement of work values will be positively correlated with internal work motivation, overall job satisfaction, satisfaction with work, and satisfaction with the job.
4. The importance of work values will have a positive moderator effect on the relationship between job characteristics and the achievement of work values.
5. The importance of work values will have a positive moderator effect on the relationship between the achievement of work values and internal work motivation, overall job satisfaction, satisfaction with work, and satisfaction with the job.
6. The importance of work values will have a positive moderator effect on the relationship between job characteristics and internal work motivation, overall job satisfaction, satisfaction with work, and satisfaction with the job.
7. The achievement of work values will mediate the relationship between job characteristics and internal work motivation, overall job satisfaction, satisfaction with work, and satisfaction with the job.

As this study was done with a sample of correctional nurses with a unique type of job and

consequently a unique set of problems, it is also hypothesized that:

8. The scores obtained for job characteristics, achievement of work values, internal work motivation, overall job satisfaction, satisfaction with work, satisfaction with the job, will be lower than those scores obtained from a broader sample of nurses working primarily in general hospitals.

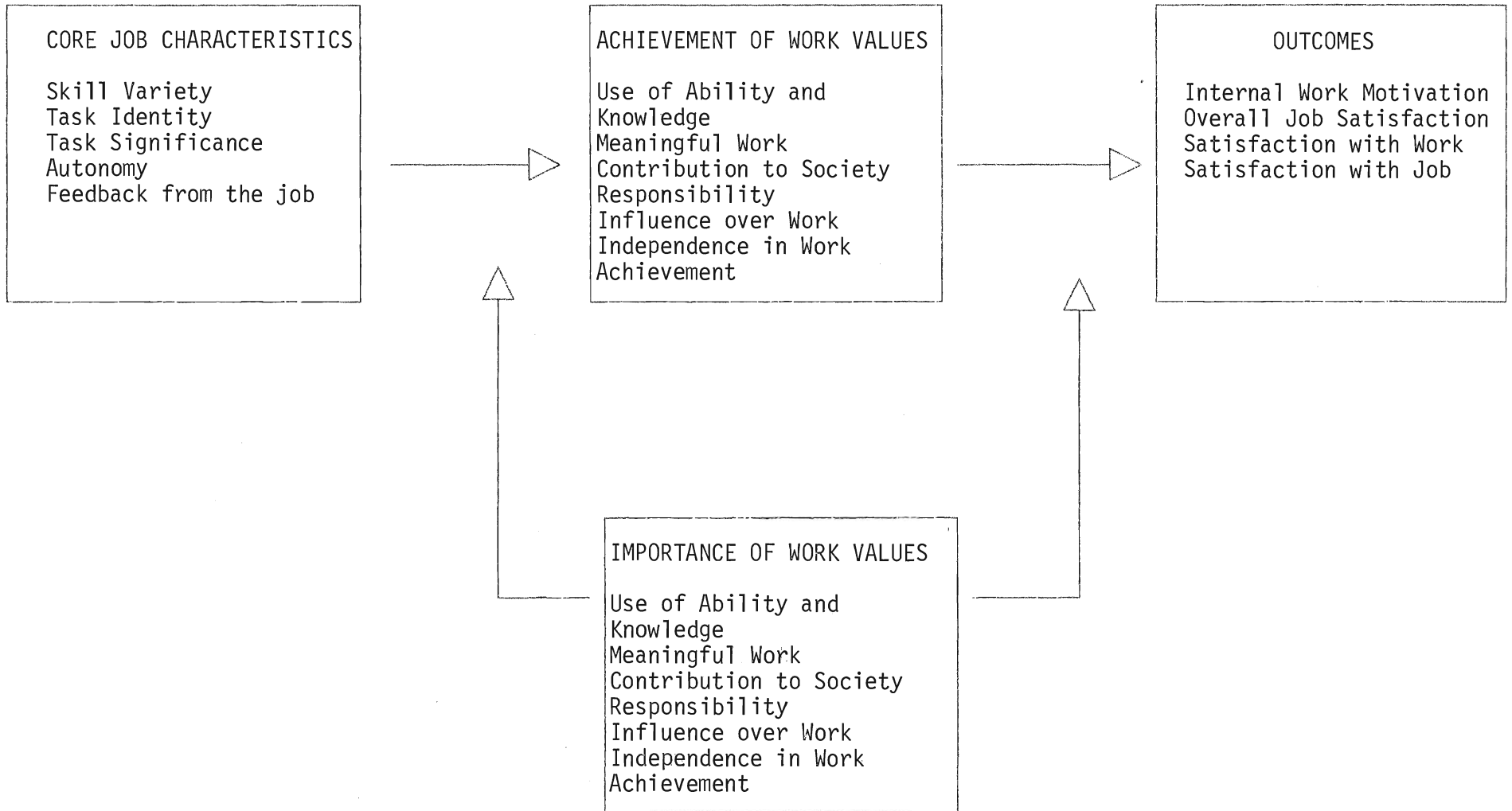


FIGURE 3: Research Model

CHAPTER TWO

The Research Procedures

Sample

A quantitative correlational survey was administered to all Registered Nurses employed by the Ministry of Correctional Services of Ontario who functioned in a clinical, as opposed to a management capacity ($n = 192$). These Registered Nurses were employed in a total of forty-eight institutions across the province.

Of the one hundred and ninety-two questionnaires distributed, one hundred and twenty were returned, and of these, one hundred and seventeen were used. The demographic data of the subjects are presented in Table 1.

TABLE 1
Descriptive Data of Sample

N (Sample)	117	%
<u>Age</u>		
< 40	2	1.7
41-45	2	1.7
46-50	0	---
51-55	63	53.8
56-60	39	33.3
No response	11	9.4

N (Sample)	117	%
<u>Gender</u>		
Male	5	4.3
Female	101	86.3
No response	11	9.4
<u>Experience in Present Organization</u>		
1	16	13.7
2	19	16.2
3 - 5	22	18.8
6 - 10	15	12.9
11 - 20	22	18.8
> 20	3	2.7
No response	20	17.1

Procedure

The proposal for this study was initially discussed with the researcher's supervisor, the Senior Medical Consultant and Manager, Health Services. Permission and support were given for the project, but formal approval was required from the ministry's Research and Evaluation Unit. A formal research proposal was subsequently submitted to this unit, and the required approval was received (see Appendix A-1).

Ideally, it would have been preferable to speak with all the participants in order to share with them the nature and purpose of the study, and to gain their support. Unfortunately, since participants were spread out in many institutions across the province, this was not possible. Instead, the researcher met with regional

groups of head nurses and explained the project and elicited their support. Since head nurses would be involved in the distribution and return of questionnaires, this support, and understanding of the project were mandatory. It was also anticipated that head nurses' support would filter down to staff nurses.

It was felt necessary to involve the head nurse in the distribution and return of questionnaires, as no current master list of nursing staff was available. It was also felt that involving the head nurse would assist in the follow-up, as head nurses were asked to complete a questionnaire distribution and return form (see Appendix A-2), which would give the researcher some indication of areas requiring follow-up.

The questionnaires were distributed by mail to the forty-eight head nurses. A memo to head nurses (see Appendix A-3) instructed them to distribute one questionnaire, one memo to Registered Nurses, and one return envelope, to each nurse in their institution. The head nurse was to collect the sealed envelopes containing completed questionnaires and return these along with the completed distribution and return form to the researcher within two weeks.

The memo to all Registered Nurses (see Appendix A-4) explained the purpose of the study, and included

instructions for completion and return of the questionnaire. The participants were advised that the data were confidential, and that the sealed envelopes would go unopened to the university for data analyses, and individuals could not be identified. The envelopes provided had a university mailing label on them in an attempt to reinforce this point. The nurses were asked to return their completed questionnaire in the sealed envelope to the head nurse within two weeks.

Superintendents of institutions were also advised of the project at this time (see Appendix A-5), as their knowledge of the survey was required for nurses' participation.

The questionnaires were returned over a six-week period.

Design

This study was conducted in forty-eight correctional facilities as conditions existed at that time. The design was a quantitative correlational survey.

Instruments

Data were gathered through use of a questionnaire. The questionnaire was part of a larger survey that measured numerous aspects of organizational behaviour

along with the variables here. All measuring instruments used in the study have been employed in prior research and have established validity and reliability. The instruments used are found in Appendix B, and are described briefly below.

Core job characteristics and internal work motivation.

These variables were measured using the Job Diagnostic Survey (J.D.S.) developed by Hackman and Oldham (1975). This instrument was created for use in diagnosing, designing or redesigning jobs, by asking incumbents to give their perceptions of the job and their feelings about it. In addition to the five core job dimensions and internal work motivation, the J.D.S. also measures three critical psychological states, general job satisfaction, and growth need strength.

Criticism of the J.D.S. includes concern about common method variance resulting from self-reporting for dependent and independent variables, as well as concern about the differences between objective and perceived job characteristics (Salancik & Pfeffer, 1977; Pierce & Dunham, 1976; O'Connor et al., 1980; Hogan & Martell, 1987). Hackman and Oldham (1980), in recognizing this concern, have recommended that the core job characteristics be rated by the job supervisor as well as the

incumbent. Recent research has indicated, however, that the problems associated with self-rated data are less serious than initially believed, and that greater confidence in the use of self report data is warranted (Birnbaum et al., 1986; Loher et al., 1985; Fried & Ferris, 1987; Gerhart 1988). For practical reasons, only incumbents' ratings were obtained in this study.

Another concern about the J.D.S. is that of the response artifacts of consistency and priming (Salancik & Pfeffer, 1977). Ordering and spacing of questions may help in decreasing the consistency effect, and measuring attitudes first and using a variety of measures may help in decreasing the priming effect. In this study the questionnaire items were reordered and blended with other measures to minimize the possibility of both consistency and priming effects.

Idaszak and Drasgow (1987) have identified a sixth dimension underlying the original J.D.S. which they describe as a measurement artifact. They recommend a revised J.D.S. where items requiring reverse scoring are rewritten so as not to require this scoring, but without changing the original meanings. The original J.D.S. however, has been used in this study.

The internal consistency reliability of the J.D.S. in previous research has ranged from .56 to .88. In this

study the internal reliability for internal work motivation was 0.56.

To measure the job characteristics of skill variety, task identity, task significance, autonomy and feedback, participants were asked to indicate their response to 10 statements concerning the job (see Appendix B-1). The following is an example of the type of question:

HOW ACCURATE IS THE STATEMENT IN DESCRIBING YOUR JOB?

1	2	3	4	5	6	7
/	/	/	/	/	/	/
Very inaccu- rate	Mostly inaccu- rate	Slightly inaccu- rate	Uncertain	Slightly Accurate	Mostly Accurate	Very Accurate

--- The job requires me to use a number of complex or high level skills.

The motivating potential of the job was determined by the formula suggested by Hackman and Oldham (1975) where the total of skill variety, task identity and task significance is divided by three, and multiplied by autonomy and feedback. An alternative calculation of motivating potential score was also completed by summing the scores for each of the job characteristics.

Internal work motivation was measured by asking participants to indicate their response to four statements about their jobs (see Appendix B-2). The following is an example of the type of question:

Now please indicate how YOU PERSONALLY FEEL about your job. Use the scale below to show how much you agree with each statement.

1	2	3	4	5	6	7
/	/	/	/	/	/	/
Strongly Disagree	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly

--- I feel a great sense of personal satisfaction when I do this job well.

Job satisfaction. Job satisfaction was measured with a scale developed by Iris and Barrett (1972), and as well with a scale developed by Hatfield et al. (1985).

In the measure developed by Iris and Barrett (1972), participants were asked to indicate their satisfaction with life in general, family, leisure and job, on a five point scale with responses ranging from "completely satisfied" to "very dissatisfied". Only the satisfaction with job scale was used in the study (see Appendix B-3).

Job satisfaction was also measured using Hatfield et al.'s (1985) Job Perception Scales. This 21-item measure assesses job satisfaction with work, pay, promotion, supervision and co-workers. This measure was developed from the highly reliable Job Descriptive Index (Smith, Kendall, & Hulin, 1969). The Hatfield instrument is shorter, however, and its reliability and validity appear well established, with all criteria for convergent and discriminant validity being met; internal consistency for

the five factors ranging from .67 to .88; and test-retest reliability over a three-week period ranging from .64 to .80. In this study, the internal reliability for overall job satisfaction was 0.82, and was 0.65 for satisfaction with work.

Participants were asked to indicate their feelings about each facet of satisfaction (see Appendix B-4) as in the example below:

This measure differentiates between various types of satisfaction: with the work itself, with pay, with promotions, with the supervisor, and with co-workers.

	7	6	5	4	3	2	1	
Work: Exciting	/	___	/	___	/	___	/	___
								/Dull
Unpleasant	/	___	/	___	/	___	/	___
								/Pleasant
Challenging	/	___	/	___	/	___	/	___
								/Unchallenging
Satisfying	/	___	/	___	/	___	/	___
								/Unsatisfying

In this study the satisfaction with work facet and overall job satisfaction (calculated by summarizing the ratings for the five categories and dividing by five) were utilized.

Importance and achievement of work values. The measurement of work values was based on a structural analysis of work outcomes by Elizur (1984). Using Guttman's Smallest Space Analysis, the contents of work

values were analyzed in order to construct an explicit definition of the work values domain. Based on data from two samples of Israelis, Elizur found support for two facets of values including modality of outcome and outcome-performance relations. The modality of outcome consisted of instrumental, affective and cognitive rewards, while the outcome-performance relations consisted of rewards and resources. The grouping of values into instrumental, affective and cognitive categories was consistent with Alderfer's (1972) categories of existence, relatedness and growth needs, as well as with other theories of motivation.

Participants in Elizur's studies rated twenty-one work values on a six-point scale ranging from very important to very unimportant. Elizur noted that the relative importance of the various items was not stable, but that the facet structure was. The fact that basically the same structure was obtained with various items in independent samples of respondents lent strong support to the definitional framework suggested for work values.

In this the study, the cognitive values of meaningful work, use of ability, contribution to society, influence over work, responsibility, independence and achievement were measured (Appendix B-5). The remaining

cognitive values including status, advancement, influence in the organization, and working for a company of which one is proud were not considered to be intrinsic to the job, and consequently did not fit into this theoretical framework.

Hunt and Saul (1975) measured the achievement of work values by asking respondents how much of 16 job factors they were currently experiencing in their jobs. These sixteen work values corresponded to the twenty-one work values used by Elizur with the removal of the five job satisfaction dimensions. The measures of achieved values were summed and averaged to provide a measurement of overall work satisfaction.

In this study, the work values for which achievement was measured were identical to those for which importance was measured. That is, the achievement of the values of meaningful work, use of ability, contribution to society, influence over work, responsibility, independence and achievement were measured (see Appendix B-6).

The importance of work values was measured on a six-point scale ranging from very important to very unimportant. The achievement of work values was measured by asking respondents to indicate on a five-point scale how much of each value they were currently experiencing ranging from very much to very little.

Demographic data. Demographic data identifying age, sex, education and years of experience in the organization (see Appendix B-7) were also gathered.

Data Analysis

Pearson correlation coefficients and stepwise multiple regression were used to test hypotheses 1-3. Hypotheses 4-7 were tested by stepwise multiple regression, and hypothesis 8 was tested by using a T-test to compare this sample with a larger sample of nurses. These analyses, as well as the means and standard deviations of all variables and the demographic data will be presented in narrative and tabular form.

Summary of Chapter Two

One hundred and seventeen subjects participated in this quantitative correlational survey in which the importance and achievement of work values in the job characteristics-job outcome relationship were examined. The participants were Registered Nurses employed by the Ministry of Correctional Services of Ontario. The data on each of the relevant variables along with demographic information were collected via mailed questionnaires which were returned over a six-week period.

CHAPTER THREE

Findings

Introduction

The first section in this chapter presents an overview of the data including the means and standard deviations as well as the Pearson correlation coefficients for all variables measured by the survey. The next eight sections in the chapter describe the findings for each of the eight hypotheses.

An Overview of the Data

The means and standard deviations of the variables measured in this study are presented in Table 2. The job characteristics which are measured on a seven-point Likert scale range in mean value from a low for task identity of 4.51 to a high for task significance of 5.43. Task identity, skill variety and feedback with mean values ranging from 4.51 to 4.69 are low compared to the JDS professional and technical survey (Hackman & Oldham, 1980) (see Appendix C) where mean values for these same characteristics range from 5.1 to 5.4. Autonomy and task significance are higher in this survey than are the

other job characteristics, with mean values of 5.12 and 5.43 respectively.

TABLE 2
Means and Standard Deviations
of all Variables

	Means	Standard Deviation
<u>Job Characteristics</u>		
Skill variety	4.69	1.32
Task identity	4.51	1.23
Task significance	5.43	1.16
Autonomy	5.12	1.31
Feedback	4.67	1.22
MPS	124.21	61.31
MPS (additive)	24.47	4.29
<u>Importance of Work Values</u>		
Responsibility	5.23	0.73
Achievement	5.64	0.58
Influence over work	5.30	0.75
To do meaningful work	5.56	0.60
Independence	5.12	0.73
Use of abilities	5.42	0.65
Contribution to society	5.02	0.75
<u>Achievement of Work Values</u>		
Responsibility	4.03	0.84
Achievement	3.41	0.76
Influence over work	3.42	0.95
To do meaningful work	3.60	0.84
Independence	3.71	0.76
Use of abilities	3.68	0.94
Contribution to society	3.13	0.78
<u>Job Outcomes</u>		
Internal work motivation	5.84	0.77
Overall job satisfaction	4.63	0.64
Satisfaction with work	4.88	0.88
Satisfaction with the job	5.00	1.45

The professional and technical survey also reflects higher values for these two characteristics with a mean value of 5.4 for autonomy, and 5.6 for significance. The standard deviations for job characteristics in this study range from 1.16 for task significance to 1.32 for skill variety, and are somewhat higher when compared to the profession and technical survey with job characteristic standard deviations ranging from 0.95 to 1.2. The motivating potential score of 124.21 (standard deviation 61.31) is lower than that obtained in the comparative survey where MPS is 155 (standard deviation 55).

The importance of work values are measured on a six-point Likert scale, and in this study, the means range in value from 5.02 for contribution to society to 5.64 for use of abilities. The standard deviations range from .58 to .75. These very high means and small standard deviations indicate that these work values are very important to most individuals in this sample.

The achievement of work values are measured on a five-point scale, and the means range in value from 3.13 for contribution to society to 3.71 for independence in work. The standard deviations for the achievement of values range from 0.76 to 0.98. The achievement of these

work values appears to be moderately well attained for this sample of individuals.

Internal work motivation which is measured on a seven-point scale has a mean value of 5.84 and a standard deviation of 0.77, indicating this sample is quite well motivated. Seven-point scales are also used to measure satisfaction with the job, satisfaction with work, and overall satisfaction. A mean value of 5.00 and a standard deviation of 1.45 for satisfaction with the job indicate respondents overall have reasonably high satisfaction, but that there is considerable variation to this. Satisfaction with work with a mean of 4.88 and overall job satisfaction with a mean of 4.63 also indicate moderate satisfaction. These measures indicate less variation, however, with a standard deviation of 0.88 for satisfaction with work, and 0.64 for overall satisfaction.

The Pearson correlation coefficients for all variables in the model are presented in Table 3. The correlations between job characteristics are all positive and all significant beyond the .001 probability level except for the correlation between autonomy and task identity.

TABLE 3

Pearson Correlation Coefficients Between
Job Characteristics, Importance of Work Values,
Achievement of Work Values, and Job Outcomes

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1. Skill variety																											
2. Task identity	.33																										
3. Task significance	.42	.37																									
4. Autonomy	.33	.10	.37																								
5. Feedback	.35	.44	.45	.27																							
6. MPS	.58	.51	.63	.68	.77																						
7. MPS (additive)	.71	.65	.75	.62	.72	.92																					
Importance of																											
8. Responsibility	.10	-.06	.12	.05	.06	.13	.09																				
9. Achievement	.06	-.12	.17	.14	.04	.12	.09	.28																			
10. Influence over work	-.12	-.10	.13	-.01	.06	.03	-.01	.27	.57																		
11. To do meaningful work	-.02	-.11	.11	-.03	.04	.00	.00	.32	.66	.69																	
12. Independence	.02	-.15	-.02	-.05	-.01	-.08	-.08	.56	.38	.34	.43																
13. Use of abilities	.07	-.01	.23	.01	.16	.13	.14	.52	.47	.37	.49	.47															
14. Contribution to society	-.01	.00	.08	.00	.03	.05	.04	.21	.33	.35	.31	.19	.37														
15. Total	.02	-.09	.19	.06	.06	.10	.09	.06	.10	.01	.01	-.11	.15	-.05													
Achievement of:																											
16. Responsibility	.25	.15	.35	.32	.30	.41	.40	.09	.26	.09	-.10	.07	.19	-.01	.17												
17. Achievement	.31	.35	.35	.30	.43	.47	.50	-.03	.18	.01	.02	-.12	.08	.09	.05	.24											
18. Influence over work	.31	.34	.43	.46	.41	.56	.57	-.07	.11	.02	.01	.14	.01	-.06	-.01	.39	.57										
19. To do meaningful work	.43	.26	.55	.41	.47	.56	.61	.17	.21	.12	.18	-.06	.19	.11	.18	.44	.60	.67									
20. Independence	.20	.06	.32	.51	.32	.46	.44	-.02	.22	.01	.10	-.01	.09	-.01	.08	.41	.27	.49	.45								
21. Use of abilities	.45	.24	.44	.37	.44	.51	.58	.08	.26	.11	.14	.05	.25	.05	.18	.48	.40	.42	.60	.48							
22. Contribution to society	.21	.22	.28	.23	.24	.34	.35	.10	.19	.16	.22	.04	.06	.04	.18	.25	.37	.35	.47	.35	.41						
23. Total	.45	.33	.55	.52	.52	.65	.69	.07	.29	.11	.16	-.02	.18	.05	.18	.65	.69	.79	.84	.68	.77	.62					
24. Internal work motivation	.05	.01	.22	.28	.24	.26	.23	.09	.06	.12	.04	-.11	.04	.03	.06	.22	.09	.03	.31	.16	.21	.11	.23				
25. Overall job satisfaction	.34	.33	.42	.24	.60	.52	.55	.14	.05	-.01	.11	-.01	.15	-.01	.08	.34	.53	.49	.52	.25	.46	.28	.56	.14			
26. Satisfaction with work	.33	.29	.41	.33	.49	.53	.54	.06	.10	.01	.01	-.11	.15	-.05	.04	.37	.47	.41	.41	.32	.35	.26	.51	.17	.73		
27. Satisfaction with job	.26	.29	.35	.35	.34	.44	.45	.02	.02	-.28	-.11	-.10	.07	-.11	-.10	.28	.50	.53	.43	.35	.35	.38	.56	.10	.49	.54	

If $r \geq .16$, $p < .05$; if $r \geq .22$, $p < .01$; if $r \geq .28$, $p < .001$

The correlations between importance of work values are all positive as well except for the correlations of contribution to society to doing meaningful work and to use of abilities. Most of these correlations are also significant except for the correlations of the importance of contribution to society with the importance of all other work values. Some correlations such as those between the importance of doing meaningful work and the importance of achievement and of influence over work are very high, with coefficients of .66 and .69 respectively.

The achievement of work values are also highly interrelated. All of the correlation coefficients are positive and significant, mostly beyond the .001 probability level. There are very high correlations between some variables such as doing meaningful work and influence over work (.67), doing meaningful work and achievement (.60), and doing meaningful work and use of abilities (.60).

The correlations between the three measures of job satisfaction are all positive and significant beyond the .001 probability level, with the coefficient between satisfaction with work and overall satisfaction being the highest at .73. Internal work motivation is positively

but not significantly related to overall satisfaction and satisfaction with the job, and is related to satisfaction with work at the .05 probability level.

It is noteworthy that the importance of work values are not significantly related to job characteristics with the exception of the importance of use of abilities and task significance, which are moderately related. Similarly, the importance of work values are not significantly related to the job outcomes, with the exception of importance of influence over work and satisfaction with the job, which are negatively and significantly correlated.

The inter-correlations between importance and achievement of work values are noteworthy as well. Thirty-eight of the forty-nine coefficients are positive, but only thirteen of these are significant, most of them only at the .05 probability level. The importance of achievement in particular is positively and significantly correlated with the achievement of six of the work values measured. None of the negative inter-correlations between importance and achievement of work values are significant. For the most part, then, the correlations between importance and achievement of work values are not significant.

Findings of Hypothesis One:

Hypothesis one states:

1. Job characteristics will be positively correlated with internal work motivation, overall job satisfaction, satisfaction with work, and satisfaction with the job.

Table 4 presents the Pearson correlation coefficients between job characteristics and job outcomes. The correlations between job characteristics and internal work motivation are all positive and are all significant except those between motivation and skill variety and task identity.

TABLE 4

Pearson Correlation Coefficients Between
Job Characteristics and Job Outcomes

Job Characteristics

Variety Identity Significance Autonomy Feedback MPS MPS
(additive)

Job
Outcomes

Internal work motivation	.05	.01	.22	.28	.24	.26	.23
Overall job satisfaction	.34	.33	.42	.24	.60	.52	.55
Satisfaction with work	.33	.29	.41	.33	.49	.53	.54
Satisfaction with the job	.26	.29	.35	.34	.34	.44	.45

If $r \geq .16$, $p < .05$; if $r \geq .22$, $p < .01$; if $r \geq .28$, $p < .001$

The correlations between job characteristics and the three measures of job satisfaction are all positive and significant. Thirteen out of the fifteen correlations are significant beyond the .001 level.

The motivating potential score using both Hackman and Oldham's formulation and the additive version is positively and significantly related to the job outcomes. Except for internal work motivation and autonomy, and overall job satisfaction and feedback, the correlations between MPS and the job outcomes are stronger than for any of the individual characteristics and job outcomes.

In summary, the Pearson correlation coefficients generally indicate strong support for the hypothesis.

Stepwise multiple regression analysis (see Table 5) is also used to test the hypothesis. Each job outcome is used separately as a dependent variable with all of the job characteristics entered as predictor variables. Job autonomy is the only characteristic which predicts internal work motivation; significance, autonomy and identity predict satisfaction with the job; and feedback and significance predict satisfaction with work and overall job satisfaction. All job characteristics with the exception of skill variety predict the job outcomes with variance ranging from .07 for internal work motivation to .29 for overall job satisfaction.

TABLE 5
Stepwise Multiple Regression with
Job Outcomes as Dependent Variables and
Job Characteristics as Predictor Variables

Job Outcomes	Core Job Characteristics	R ²	△R ²
<u>Internal Work Motivation</u>			
	Job autonomy	.07	
<u>Satisfaction with Job</u>			
	Job significance	.12	
	Job autonomy	.17	.05
	Task identity	.20	.03
<u>Overall Job Satisfaction</u>			
	Job feedback	.26	
	Task significance	.29	.03
<u>Satisfaction with Work</u>			
	Job feedback	.22	
	Task significance	.26	.04

Based on the results of the regression analysis as well as the results of the Pearson correlation coefficients, hypothesis one is supported.

Findings of Hypothesis Two

Hypothesis two states:

2. Job characteristics will be positively correlated with the achievement of work values.

TABLE 6

Pearson Correlations Coefficients
Between Job Characteristics and
Achievement of Work Values

<u>Job Characteristics</u>							
	Variety	Identity	Significance	Autonomy	Feedback	MPS	MPS (additive)
<u>Achievement of Work Values</u>							
Respon- sibility	.25	.15	.35	.32	.30	.41	.40
Achievement	.31	.35	.35	.30	.43	.47	.50
Influence over work	.31	.34	.43	.46	.41	.56	.57
To do meaning- ful work	.43	.26	.55	.41	.47	.56	.61
Independence	.20	.06	.32	.51	.32	.46	.44
Use of abilities	.45	.24	.44	.37	.44	.51	.58
Contribution to society	.21	.22	.28	.23	.24	.34	.35
Total of achievement values	.45	.33	.55	.52	.52	.65	.69

If $r \geq .16$, $p < .05$; if $r \geq .22$, $p < .01$; if $r \geq .28$, $p < .001$

The Pearson correlation coefficients between job characteristics and achievement of work values are presented in Table 6. All correlations between job

characteristics and achievement of work values are positive, with all but two of these being significant. Most correlations are highly significant, beyond the .001 probability level. MPS, again calculated by two methods, is highly and significantly correlated to the achievement of all work values, and in this case more so than are any of the correlations between individual job characteristics and achievement of work values. The additive version of MPS appears to have somewhat higher correlations with the achievement of work values than does the alternative version. The Pearson correlation coefficients, then, indicate strong support for the hypothesis.

Table 7 presents the results using stepwise multiple regression. Again the job characteristics are entered into the equation as predictor variables with each achieved work value as the dependent variable. The total of achieved values is also used as a dependent variable.

The job characteristics predict all of the achieved work values contributing from .08 of the variance for contribution to society to .40 of the variance for meaningful work. The variance predicted for the total achievement of values is .48.

TABLE 7

Stepwise Multiple Regression with
Achievement of Work Values as Dependent
Variables and Job Characteristics
as Predictor Variables

Achievement of Work Values	Core Job Characteristics	R ²	△R ²
<hr/>			
<u>Responsibility</u>			
	Task significance	.12	
	Job autonomy	.16	.04
<u>Achievement</u>			
	Job feedback	.18	
	Job autonomy	.22	.04
	Task identity	.25	.03
<u>Meaningful Work</u>			
	Task significance	.30	
	Job feedback	.36	.06
	Job autonomy	.40	.04
<u>Use of Abilities</u>			
	Skill variety	.20	
	Job feedback	.29	.09
	Job autonomy	.32	.03
<u>Independence</u>			
	Job autonomy	.25	
	Job feedback	.29	.04
<u>Contribution to Society</u>			
	Task significance	.08	
<u>Influence Over Work</u>			
	Job autonomy	.21	
	Task identity	.29	.08
	Job feedback	.33	.04
<u>Total Achieved Values</u>			
	Task significance	.30	
	Job autonomy	.41	.11
	Job feedback	.48	.07

Autonomy is the characteristic predicting achieved values most frequently, and enters all the equations except that for contribution to society. Feedback is also an important predictor, and enters six of the eight equations. Significance predicts for several of the achieved values as well, while identity predicts for two of the achieved values, and skill variety predicts for only one.

In summary, stepwise multiple regression indicates support for the achievement of work values being predicted by job characteristics. This, combined with the results using Pearson correlation coefficients, indicates support for the hypothesis.

Findings of Hypothesis Three

Hypothesis three states:

3. The achievement of work values will be positively correlated with internal work motivation, overall job satisfaction, satisfaction with work, and satisfaction with the job.

Pearson correlation coefficients between achievement of work values and job outcomes (see Table 8) indicate

positive correlations between the achievement of all values and internal work motivation. Three of these correlations, that is the correlation between internal work motivation and achievement of sense of achievement, influence over work, and contribution to society, lack significance, however.

All correlations between the achievement of work values and the three measures of job satisfaction are positive and highly significant. Nineteen out of twenty-one correlations are significant beyond the .001 probability level, and several correlations such as achievement and overall job satisfaction (.53), to do meaningful work and overall satisfaction (.52), and influence over work and satisfaction with the job (.53), are very high.

The total of achieved values is also positively and significantly correlated with all job outcomes, ranging from .23 for the correlation with internal work motivation, and from .51 to .56 for the correlations with the measures of job satisfaction.

In summary then, the hypothesis is strongly supported using Pearson correlation coefficients.

TABLE 8

Pearson Correlation Coefficients Between
Achievement of Work Values and Job Outcomes

<u>Achievement of Work Values</u>	<u>Job Outcomes</u>			
	Internal Work Motivation	Overall Job Satisfaction	Satisfaction with Work	Satisfaction with the Job
Responsibility	.22	.34	.37	.28
Achievement	.09	.53	.47	.50
Influence over work	.03	.49	.41	.53
To do meaningful work	.31	.52	.41	.43
Independence	.16	.25	.32	.35
Use of abilities	.21	.46	.35	.35
Contribution to society	.11	.28	.26	.38
Total of achieved values	.23	.56	.51	.56

If $r \geq .16$, $p < .05$; if $r \geq .22$, $p < .01$; if $r \geq .28$, $p < .001$

Stepwise multiple regression (see Table 9) provides further support for the hypothesis. All of the achieved work values except independence and use of ability predict the job outcomes, with sense of achievement, influence over work, and meaningful work predicting most frequently. The variance of outcomes predicted by the achievement of work values ranges from .14 for internal work motivation to .36 for satisfaction with the job.

TABLE 9

Stepwise Multiple Regression with Job Outcomes
as Dependent Variables and Achievement of
Work Values as Predictor Variables

Job Outcomes	Achievement of Work Values	R ²	ΔR^2
<u>Internal Work Motivation</u>			
	Meaningful work	.09	
	Influence over work	.14	.05
<u>Satisfaction with Job</u>			
	Influence over work	.28	
	Sense of achievement	.34	.06
	Contribution to Society	.36	.02
<u>Overall Job Satisfaction</u>			
	Meaningful Work	.19	
	Sense of Achievement	.23	.04
<u>Satisfaction with Work</u>			
	Sense of Achievement	.19	
	Responsibility	.24	.05

Hypothesis three is supported.

Findings of Hypothesis Four:

Hypothesis four states:

4. The importance of work values will have a positive moderator effect on the relationships between job characteristics and the achievement of work values.

The moderating effect of the importance of work values is determined by using stepwise multiple regression with the achievement of work values as dependent variables, and with job characteristics, importance of work values, and interactions between job characteristics and importance of work values, as predictor variables. The results of this stepwise multiple regression are presented in Table 10.

Stepwise multiple regression is also used to explore the moderating effects of importance of work values between the motivating potential score using both MPS and MPSA, and the achievement of work values. The results of this analysis are presented in Table 11.

When the job characteristics are entered separately into the equations, an interaction variable between the job characteristics and importance of values predicts for four out of the seven work values. No interaction term predicts for the total of achieved values.

TABLE 10

Stepwise Multiple Regression with Importance of Work
Values as Moderating Variables Between Job
Characteristics and Achievement of Work Values

Achievement of Work Values	Core Job Characteristics and Importance of Work Values	R ²	△R ²
<u>Responsibility</u>			
	Task significance	.12	
	Task significance x importance of sense of achievement	.17	.05
	Job feedback x importance of sense of achievement	.21	.04
<u>Achievement</u>			
	Job feedback	.18	
	Job autonomy	.22	.04
	Task identity	.25	.03
	Job feedback x importance of sense of achievement	.28	.03
<u>Influence Over Work</u>			
	Job autonomy	.21	
	Task identity	.29	.08
	Job feedback	.33	.04
<u>Use of Abilities</u>			
	Skill variety	.20	
	Job feedback	.28	.08
	Skill variety x importance of sense of achievement	.34	.06
	Job autonomy	.37	.03
<u>Contribution to Society</u>			
	Task significance	.08	
	Importance of meaningful work	.11	.03
	Job feedback x importance of use of abilities	.15	.04
<u>Meaningful Work</u>			
	Task significance	.30	
	Job feedback	.36	.06
	Job autonomy	.40	.04
<u>Independence</u>			
	Job autonomy	.25	
	Job feedback	.29	.04
<u>Total Achieved Values</u>			
	Task significance	.30	
	Job autonomy	.41	.11
	Job feedback	.48	.07
	Importance of sense of achievement	.51	.03
	Skill variety	.53	.02

TABLE 11

STEPWISE MULTIPLE REGRESSION WITH IMPORTANCE OF
WORK VALUES AS MODERATING VARIABLES BETWEEN MOTIVATING
POTENTIAL SCORE AND ACHIEVEMENT OF WORK VALUES

Achievement of Work Values	Motivating Potential Score and Importance of Work Values	R ²	ΔR^2
<u>Responsibility</u>			
(MPS in equation)	MPS	.16	
	MPS x importance of sense of achievement	.20	.04
(MPSA in equation)	MPSA	.16	
	MPSA x importance of sense of achievement	.21	.05
<u>Achievement</u>			
(MPS in equation)	MPS	.21	
(MPSA in equation)	MPSA	.24	
<u>Influence Over Work</u>			
(MPS in equation)	MPS	.30	
(MPSA in equation)	MPSA	.32	
	Job feedback	.33	.04
<u>Use of Abilities</u>			
(MPS in equation)	MPS	.25	
(MPSA in equation)	MPSA	.33	
	MPSA x importance of sense of achievement	.36	.03
<u>Contribution to Society</u>			
(MPS in equation)	MPS	.12	
	MPS x importance of meaningful work	.15	.03
(MPSA in equation)	MPSA	.12	
	MPSA x importance of meaningful work	.17	.05
<u>Meaningful Work</u>			
(MPS in equation)	MPS	.31	
(MPSA in equation)	MPSA	.37	
	MPSA x importance of meaningful work	.40	.03
<u>Independence</u>			
(MPS in equation)	MPS	.21	
(MPSA in equation)	MPSA	.19	
<u>Total Achieved Values</u>			
(MPS in equation)	MPS	.42	
	MPS x importance of sense of achievement	.45	.03
(MPSA in equation)	MPSA	.47	
	MPSA x importance of sense of achievement	.52	.05

The importance of sense of achievement moderates most frequently affecting the achievement of responsibility, sense of achievement, and use of abilities and adds from .03 to .09 to the total variance. The importance of use of abilities moderates between job characteristics and contribution to society adding .06 to the variance. In two cases, the importance of values predicts, with importance of meaningful work increasing the variance for contribution to society by .03, and the importance of sense of achievement also increasing the variance for total achieved values by .03.

When the moderating effects of the importance of work values between the motivating potential score and the achievement of work values are tested, it is found that interaction terms predict in eight out of sixteen cases. With MPS in the equation, the importance of sense of achievement or importance of meaningful work moderate for responsibility, contribution to society, and total of achieved values adding from .03 to .04 of the variance. The importance of sense of achievement and of meaningful work also moderate when MPSA is used, adding from .03 to .05 of the variance for responsibility, use of abilities, contribution to society, meaningful work, and total achieved values.

The MPSA appears to detect moderating effects more effectively than does Hackman and Oldham's multiplicative formula.

In summary, the importance of work values moderates in half of the cases, with importance of sense of achievement moderating most frequently, followed by importance of meaningful work and the importance of use abilities. Moderating effects were detected between job characteristics or motivating potential score and all the achieved work values with the exception of the achievement of independence and the achievement of influence over work. Hypothesis four is consequently partially supported.

Findings of Hypothesis Five

Hypothesis five states:

5. The importance of work values will have a positive moderator effect on the relationship between the achievement of work values and internal work motivation, overall job satisfaction, satisfaction with work, and satisfaction with the job.

Stepwise multiple regression is used to determine the moderating effects of importance of work values on this relationship as well (see Table 12).

TABLE 12
 Stepwise Multiple Regression with
 Importance of Work Values as Moderating Variables
 Between Achievement of Work Values
 and Job Outcomes

Job Outcomes	Achievement and Importance of Work Values	R ²	ΔR^2
<u>Internal Work Motivation</u>			
	Achievement of meaningful work	.09	
	Achievement of influence over work	.14	.05
<u>Satisfaction with Job</u>			
	Achievement of influence over work	.28	
	Importance of influence over work	.36	.08
	Achievement of contribution to society	.43	.07
	Achievement of sense of achievement	.46	.03
	Importance of use of abilities	.49	.03
<u>Overall Job Satisfaction</u>			
	Achievement of meaningful work	.19	
	Achievement of sense of achievement	.23	.04
<u>Satisfaction with Work</u>			
	Achievement of sense of achievement	.19	
	Achievement of responsibility	.24	.05

The moderating effects of the importance of work values between the total achievement of work values and job outcomes is also explored, and the results using stepwise multiple regression are presented in Table 13.

With the achievement of work values used separately as predictors, no interaction terms between achieved work values and importance of work values entered the equation, indicating no moderating effects of the importance of work values. The achievement of work values primarily predicted the outcomes, but the importance of work values also predicted in two cases.

TABLE 13

Stepwise Multiple Regression with
Importance of Work Values as Moderating Variables
Between Total Achievement of Work Values
and Job Outcomes

Job Outcomes	Achievement and Importance of Work Values	R ²	△R ²
<hr/>			
<u>Internal Work Motivation</u>	Total achievement of values	.05	
<u>Satisfaction with Job</u>	Total achievement of values	.29	
	Importance of influence over work x total achievement of values	.38	.09
<u>Overall Job Satisfaction</u>	Total achievement of values	.22	
<u>Satisfaction with Work</u>	Total achievement of values	.22	

When the total achievement of values was used, the importance of influence over work moderated the relationship between achieved work values and satisfaction with the job.

In summary, in only one out of eight equations did an interaction variable predict an outcome, indicating only very slight support for the hypothesis.

Findings of Hypothesis Six

Hypothesis six states:

6. The importance of work values will have a positive moderator effect on the relationship between job characteristics and internal work motivation, overall job satisfaction, satisfaction with work, and satisfaction with the job.

The moderating effect of the importance of work values on the overall relationship is also determined by stepwise multiple regression (see Table 14).

The moderating effects between motivating potential score using both MPS and MPSA are also explored, and the results are presented in Table 15.

TABLE 14
Stepwise Multiple Regression with
Importance of Work Values as Moderating Variables
Between Job Characteristics and Job Outcomes

Job Outcomes	Achievement and Importance of Work Values	R ²	△R ²
<u>Internal Work Motivation</u>			
	Job autonomy	.07	
	Job feedback x importance of independence	.11	.04
	Task identity x importance of influence over work	.16	.05
<u>Satisfaction with Job</u>			
	Task significance x importance of influence over work	.18	
	Job feedback	.25	.07
	Job autonomy	.29	.04
<u>Overall Job Satisfaction</u>			
	Job feedback	.26	
	Task significance	.29	.03
<u>Satisfaction with Work</u>			
	Job feedback	.22	
	Task significance	.26	.04

The interaction terms between feedback and importance of independence, and between identity and importance of influence over work increase the variance predicted for internal work motivation from .07 to .16. The importance of influence of work also appears to moderate between task significance and satisfaction with the job contributing .18 of the variance.

Using motivating potential in the equation, importance of independence and influence over work moderate between MPS and internal work motivation contributing .12 of the variance. Satisfaction with the

job is moderated by the importance of influence over work with MPS (.24), and the importance of influence over work and importance of responsibility with MPSA, increasing the variance from .20 to .29.

There were no interaction terms predicting the outcomes for overall job satisfaction and satisfaction with work using the job characteristics or either version of the MPS, indicating no moderating effects.

TABLE 15

Stepwise Multiple Regression with
Importance of Work Values as Moderating Variables
Between Motivating Potential Score and Job Outcomes

Job Outcomes	Motivating Potential Score and Importance of Work Values	R ²	△R ²
<u>Internal Work Motivation</u>			
(MPS in equation)	MPS x importance of independence	.09	
	MPS x importance of influence over work	.12	.03
(MPSA in equation)	MPSA	.05	
<u>Satisfaction with Job</u>			
(MPS in equation)	MPS x importance of influence over work	.24	
(MPSA in equation)	MPSA	.20	
	MPSA x importance of influence over work	.27	.07
	MPSA x importance of responsibility	.29	.02
<u>Overall Job Satisfaction</u>			
(MPS in equation)	MPS	.21	
(MPSA in equation)	MPSA	.23	
<u>Satisfaction with Work</u>			
(MPS in equation)	MPS	.25	
(MPSA in equation)	MPSA	.27	

In summary, although no moderating effects were found between job characteristics and overall satisfaction and satisfaction with work, the importance of work values did moderate between job characteristics and internal work motivation and satisfaction with the job. The hypothesis is partially supported.

Findings of Hypothesis Seven

Hypothesis seven states:

7. The achievement of work values will mediate the relationship between job characteristics and internal work motivation, overall job satisfaction, satisfaction with work, and satisfaction with the job.

The mediating effect of the achievement of work values is determined by using stepwise multiple regression with job outcomes as the dependent variables and with job characteristics and achievement of work values as predictor variables. The results of this regression analysis are presented in Table 16.

TABLE 16
Stepwise Multiple Regression with
Achievement of Work Values as Mediating Variables
Between Job Characteristics and Job Outcomes

Job Outcomes	Core Job Characteristics and Achievement of Work Values	R ²	△R ²
<u>Internal Work Motivation</u>			
	Meaningful work	.09	
	Influence over work	.14	.05
	Job autonomy	.19	.05
<u>Satisfaction with Job</u>			
	Influence over work	.28	
	Sense of achievement	.34	.06
	Contribution to society	.36	.02
<u>Overall Job Satisfaction</u>			
	Job feedback	.26	
	Meaningful work	.31	.05
<u>Satisfaction with Work</u>			
	Job feedback	.21	
	Sense of achievement	.29	.08
	Responsibility	.32	.03

The achievement of work values predicts for all of the job outcomes. For the outcome of internal work motivation, the achievement of work values contributes .14 of the variance with autonomy increasing the variance by .05. Satisfaction with the job is predicted by the achievement of work values only, accounting for .36 of the variance. Overall job satisfaction and satisfaction with work are predicted by job feedback with the

achievement of work values adding .05 and .11 to each measure of satisfaction respectively. All of the work values with the exception of achievement of independence and use of abilities predict the job outcomes.

Fried and Ferris (1987) suggest that the mediating effects of the critical psychological states be tested by demonstrating higher correlations between the job characteristics and their specified psychological states than with the other psychological states, as well as examining for greater correlations between the critical psychological states and the job outcomes, than between the job characteristics and job outcomes. In this study, a one-to-one correspondence between job characteristics and achievement of work values was not necessarily suggested, so this will not be examined. A comparison between the core job characteristics and the achievement of work values as predictors of the job outcomes (see Table 17) may serve as a further test of the mediating hypothesis, however.

For the outcomes of internal work motivation and satisfaction with the job, the amount of variance predicted by the achievement of work values is clearly greater than that predicted by the job characteristics. The variance predicted by the job characteristics and the achievement of work values is nearly equal for

satisfaction with the work, and greater for the job characteristics than achievement of work values for overall job satisfaction.

TABLE 17

Comparison of Job Characteristics and
Achievement of Work Values as
Predictors of Job Outcomes

Job Outcomes	Job Characteristics	R ²	ΔR^2	Achievement of Work Values	R ²	ΔR^2
<hr/>						
<u>Internal Work Motivation</u>	Job autonomy	.07		Meaningful work	.09	
				Influence over work	.14	.05
<u>Satisfaction with Job</u>	Task significance	.12		Influence over work	.28	
	Job Autonomy	.17	.05	Sense of achievement	.34	.06
	Task identity	.20	.03	Contribution to society	.36	.02
<u>Overall Job Satisfaction</u>	Job feedback	.26		Meaningful work	.19	
	Task significance	.29	.03	Sense of achievement	.23	.04
<u>Satisfaction with Work</u>	Job feedback	.22		Sense of achievement	.19	
	Task significance	.26	.04	Responsibility	.24	.05

In summary, the achievement of work values predict all job outcomes, contributing more to the variance than job characteristics for internal work motivation and satisfaction with the job, indicating considerable support for the hypothesis.

Findings of Hypothesis Eight

Hypothesis eight states:

8. The mean values obtained for job characteristics, achievement of work value, internal work motivation, overall job satisfaction, satisfaction with work, and satisfaction with the job, will be lower than those scores obtained from a broader sample of nurses.

The T-test is used to compare the mean values between groups. The means, standard deviations, T value and 2-Tail probability are presented in Table 18.

The means for all values except feedback, achievement of responsibility, and satisfaction with the job, are lower in the study sample than they are in the larger nursing sample. Of these, four are significant, with the mean values for skill variety, achievement of meaningful work, achievement of contribution to society, and overall job satisfaction being significantly lower for the study sample than for the larger sample of nurses. None of the mean values which are higher for the study sample are significant.

TABLE 18
Comparison Between Study Sample
and Other Nursing Sample

	Study Sample n=106		Nursing Sample n=235		T	2-Tail
Variable	Mean	Std.Dev.	Mean	Std.Dev.	Value	Prob.
<u>Job Characteristics</u>						
Skill variety	4.73	1.33	5.15	1.31	-2.71	0.007
Task identity	4.48	1.21	4.53	1.24	-0.42	0.673
Task significance	5.50	1.60	5.63	1.14	-0.92	0.361
Autonomy	5.15	1.34	5.17	1.23	-0.16	0.873
Feedback	4.68	1.22	4.65	1.30	0.20	0.843
MPS	126.32	62.61	128.67	62.90	-0.31	0.753
MPS (Additive)	24.60	4.34	25.14	3.90	-1.10	0.275
<u>Achievement of Work Values</u>						
Responsibility	4.05	0.80	3.93	0.83	1.23	0.221
Achievement	3.43	0.77	3.55	0.80	-1.37	0.173
Influence over work	3.41	0.97	3.42	0.80	-0.11	0.910
Meaningful work	3.63	0.86	3.89	0.76	-2.70	0.008
Use of Abilities	3.70	0.94	3.82	0.85	-1.09	0.277
Contribution to Society	3.17	0.78	3.63	0.83	-4.92	0.000
Independence	3.73	0.76	3.77	0.85	-0.37	0.714
<u>Job Outcomes</u>						
Internal work motivation	5.85	0.76	5.91	0.70	-0.65	0.517
Satisfaction with work	4.87	0.88	5.04	0.97	-1.60	0.112
Overall satisfaction	4.66	0.64	4.90	0.81	-2.66	0.008
Satisfaction with job	5.01	1.44	4.99	1.50	0.13	0.896

The results provide partial support for the hypothesis.

Summary of Chapter Three

An overview of the data, as well as the results of the findings indicated through correlational, stepwise multiple regression, and T-test analyses were presented.

The positive relationships predicted between job characteristics and job outcomes, between job characteristics and achievement of work values, and between achievement of work values and job outcomes were supported. The importance of work values demonstrated some moderating effects between job characteristics and job outcomes, and between job characteristics and achievement of work values, and the achievement of work values appeared to mediate between the job characteristics and job outcomes.

The mean values of several of the variables measured were significantly lower for the study sample when compared with a larger nursing sample.

CHAPTER FOUR

Discussion of Results

Introduction

This survey explored the relationship of work values in the job characteristics-job outcome relationship for the population of Registered Nurses working with the Ontario Ministry of Correctional Services. The results indicated considerable support for the hypotheses as predicted, with the achievement of work values mediating the job characteristics-job outcome relationship, and the importance of work values moderating the relationship at two out of three points. In addition, certain mean values of the variables measured were significantly lower for this sample than for a comparative larger sample of nurses.

This chapter will be organized into several sections including discussions on the job characteristics-job outcome relationship, the achievement of work values in the job characteristics-job outcome relationship, the importance of work values in the job characteristics-job outcome relationship, a comparison of correctional

nurses with others, limitations of the study, and implications for further research and for correctional nursing.

The Job Characteristics-Job Outcome Relationship

The job characteristics-job outcome relationship was examined in hypothesis one. All of the job characteristics were positively related to all of the job outcomes as predicted. Only two of twenty-eight relationships lacked significance and those were internal work motivation with skill variety and with task identity. The majority of the other relationships were significant at the .001 level. The stepwise multiple regression added support to the hypothesis with job autonomy predicting internal work motivation; significance, autonomy and identity predicting satisfaction with the job; and feedback and significance predicting satisfaction with work and overall job satisfaction.

These findings are consistent with the findings of other researchers who found the basic relationship between job characteristics and job outcomes to be positive (Hackman & Lawler, 1971; Hackman & Oldham, 1976; Brief & Aldag, 1975; Stone, 1976; Brief et al., 1978;

White, 1978; Ganster, 1980; Roedel & Nystrom, 1988; Stone, 1986; Fried & Ferris, 1987; Loher et al., 1985).

In this study, however, the relationships between job characteristics and internal work motivation are not as strong as the relationships between job characteristics and other outcomes. The relationships of internal work motivation with skill variety and task identity are insignificant; with task significance, feedback, MPS, and MPSA, the relationships are significant at the .01 level; and only with autonomy is internal work motivation significant at the .001 level.

It is difficult to explain these lower correlations, and it is unclear whether they might be related to this particular sample, to inadequacies of the measures used, or to a fault in the theory.

The correlations between internal work motivation and variety and identity are particularly low. If the lower correlations are resulting from something specific to this sample, then the correlations between variety and identity and other outcomes should also be lower. The correlations of variety and identity to the satisfaction measures are all significant, with five out of six of them being significant at the .001 level. On closer examination, however, it is found that most of the correlations between the satisfaction measures and

identity and variety are lower than the correlations between the satisfaction measures and the other job characteristics. The results, then, may be related to the comparatively low mean values of skill variety (4.69) and task identity (4.51) in this sample.

The correlations between internal work motivation and variety and identity lack significance, but again, all the correlations between internal work motivation and the job characteristics are low when compared with the correlations between measures of satisfaction and the job characteristics. Looking at the measure for internal work motivation, the questions such as "I feel bad or unhappy when I discover that I have performed poorly", may say more about the individual himself than they do about the motivating properties of the job. It is noted that in spite of only low to moderate scores on the job characteristics in this sample, the mean value for internal work motivation (5.91) is quite high, indicating a possible problem with the measure. The low internal reliability (.56) in this sample may also be indicative of a measurement problem.

Examination of the results of Fried and Ferris' (1987) review and meta-analysis of nearly 200 studies also indicates that the correlations of internal work motivation with identity, feedback, MPS, and MPSA are all

lower than the relationships with these characteristics and other psychological outcomes. The frequently lower correlations between internal work motivation and job characteristics in many studies may be further indication that the measure of internal work motivation is not measuring this concept effectively.

Critics of the job characteristic approach would argue that the positive job characteristics-job outcome relationships are because perceptions of job characteristics, as opposed to the objective job characteristics, were measured. O'Connor et al. (1980) and James and Jones (1980) contended that individual difference variables such as values, beliefs and needs have main effects on the perceptions of job characteristics as well as job satisfaction. In this study the importance of work values had a significant relationship with job characteristics or job outcomes in only two out of a possible seventy-seven relationships. Although other personal factors conceivably affect the perception of job characteristics and job outcomes, the importance of work values certainly did not, providing more support for the conclusion that perceived job characteristics are related to job outcomes because employees tend to respond positively to complex jobs.

Other research has indicated that in addition to personal factors, social cues and possibly the level of satisfaction also affect the perception of job characteristics. This by no means, however, negates the influence of the objective job characteristics. (Griffin, 1983; Fried & Ferris, 1987). For practical reasons the job rating form was not used in this study, and there was no method to determine the difference between objective and perceived job characteristics. The conclusions, however, made by several researchers that problems associated with self-report data are less serious than initially believed (Fried & Ferris, 1987; Loher et al., 1987; Birnbaum et al., 1986; Gerhart, 1988), permit some confidence in interpreting the results of this study as indicating that individuals do respond positively to enriched jobs.

The regression analyses indicated that the variance of outcomes accounted for by the job characteristics ranged from a low of .07 for internal work motivation to a high of .29 for overall job satisfaction. There is no doubt that other factors affected the job characteristics-job outcome relationship, but again, this does not negate the significant influences of the job characteristics on motivation and satisfaction.

The multidimensionality of the JDS has been another concern of researchers. The intercorrelations among job characteristics in this study are certainly high, with most of them significant at the .001 level. Regression analysis, however, indicates that all of the job characteristics with the exception of skill variety are predictors of the job outcomes, suggesting that each of these job characteristics provides a unique contribution to the job outcomes. Fried and Ferris' (1987) analysis of many studies indicated that skill variety was the job characteristic that had the strongest relationship with internal work motivation. The fact that the mean for skill variety was low in this study and lacked significance in its relationship to internal work motivation may have influenced the findings that variety did not predict internal work motivation nor any of the satisfaction outcomes.

In summary, although the correlations between job characteristics and internal work motivation were somewhat lower than for other outcomes, and in spite of the fact that skill variety did not predict any of the job outcomes, the job characteristics were certainly positively correlated with all job outcomes. One can conclude from this that the individuals in this study responded positively to enriched jobs, with greater

motivation and satisfaction for those jobs which were high in the job characteristics and the resulting motivating potential score.

The Achievement of Work Values in the Job Characteristics-Job Outcome Relationship

It was hypothesized that the job characteristics would be positively correlated with the achievement of work values, that the achievement of work values would be positively correlated with job outcomes, and that the achievement of work values would mediate the relationship between job characteristics and job outcomes.

The findings indicated considerable support for the first two hypotheses. The job characteristics were all positively and significantly correlated with, and predicted all of the achieved work values. The achieved work values were generally positively and significantly correlated with, and predicted the job outcomes. The exceptions were the correlations of achievement, influence over work, and contribution to society with internal work motivation. As were the correlations with job characteristics and internal motivation, all correlations between the achievement of work values and internal work motivation were lower than the correlations between achieved work values and other outcomes. This

again may suggest a problem with the measure of internal work motivation as discussed previously. Two of the achieved work values which did not predict job outcomes were the use of abilities and independence. These results may be because of problems with the conceptualization, or possibly because the intercorrelations among the achievement of all work values were quite high, and the stepwise multiple regression did not, therefore, indicate any unique variance added by these particular variables.

The total of achieved values was generally correlated more highly with the job characteristics and the job outcomes than were the individual achieved values. As well, variance predicted by the job characteristics for the total of achieved values (.48) was considerably greater than the variances predicted for any of the individual achieved values (.16 - .40). These findings would give some support to the suggestion that the total of achieved values is a meaningful concept which might be useful in understanding the job characteristics-job outcome relationship.

The findings also indicated support for the mediating hypothesis. The regression analysis indicated that all the achieved work values, again with the exception of use of abilities and independence, predicted

the job outcomes. A comparison between the achievement of work values and job characteristics as predictors of job outcomes indicated the achievement of work values contributed more variance than did the job characteristics for internal work motivation and satisfaction with the job, but did not for satisfaction with work and overall job satisfaction.

These results could possibly be explained by the fact that the overall job satisfaction measure is very broad, tapping several facets of job satisfaction unrelated to the conceptualization. Results using this measure, then, could not necessarily be expected to conform with the predictions. Similarly, the measure of satisfaction with work is not growth satisfaction as conceptualized, and in addition to the challenge and satisfaction with work, it measures whether work is exciting and pleasant which are somewhat removed from the conceptualization, and may cause variation from the predicted results.

In summary, the achievement of work values appeared to be significant variables in this study. The achievement of work values were positively correlated with the job characteristics and the job outcomes, and they also appeared to mediate the job characteristics-job outcome relationship.

The Importance of Work Values in the Job Characteristics-
Job Outcome Relationship

It was hypothesized that the importance of work values would moderate the overall job characteristics-job outcome relationship, moderate between job characteristics and achievement of work values, and moderate between achievement of work values and job outcomes.

The results indicated that the importance of work values moderated to some extent between job characteristics and job outcomes, and between job characteristics and achievement of work values. The importance of work values moderated only minimally between achievement of work values and job outcomes.

It is important to look more closely at which work values moderated, and between what variables they moderated. The importance of influence over work was the most frequent moderator between job characteristics and job outcomes, followed by the importance of independence and responsibility. It is interesting that the moderators between job characteristics and achievement of work values were different from those between job characteristics and outcomes. The importance of sense of achievement moderated most frequently, followed by

importance of meaningful work and use of abilities. All work values moderated, then, except for the importance of contribution to society. The total importance of work values did not moderate as predicted.

The work values appeared to moderate between the job characteristics and internal work motivation and satisfaction with the job, but not between job characteristics and satisfaction with work and overall satisfaction. This again may have something to do with the measures of satisfaction with work and overall satisfaction, as discussed in the previous section.

The only moderating effect found between achievement of values and job outcomes was the importance of influence over work between the total achievement of values and satisfaction with the job.

The work values also appeared to moderate between the task characteristics of significance, feedback and variety, and all of the achieved work values except influence over work, meaningful work and independence. When the moderating effect was explored between motivating potential score and achieved work values, the importance of work values moderated except between the motivating potential score and influence over work, achievement and independence. It is unclear as to why

there were no moderating effects at all between the job characteristics and influence over work and independence.

As alluded to earlier, the moderating effects were explored between job characteristics and achieved values and outcomes, as well as between motivating potential score and achieved values and outcomes. There were only minor differences in the moderating effects detected when using individual job characteristics compared to the motivating potential score. The most significant difference was that there were no moderating effects detected between individual job characteristics and the total achievement of values, but the importance of sense of achievement did moderate between the motivating potential score and the total achievement of values.

Both MPS and MPSA were used in separate equations to determine their relative effectiveness in detecting moderating effects. The MPSA appeared more effective in detecting moderating effects between job characteristics and achievement of work values, while MPS appeared somewhat more effective in detecting moderating effects between achievement of work values and job outcomes.

Other research (Stone et al., 1977; O'Connor et al., 1980) has indicated that variables that have been conceptualized to moderate, in some cases predict. In this analysis, the importance of work values (all of them

different) predicted achievement of work values or job outcomes in only four cases in a total of forty-four regression equations completed. The importance of work values in this study generally did not have main effects on the achievement of work values or job outcomes, providing no support for the interpretation that individuals experience the achievement of work values and the subsequent job outcomes simply because intrinsic work values are important to them.

The fact that significant moderating effects were found is perhaps somewhat surprising given that the study sample all appeared to rate the work values as important, with mean values ranging from 5.02 to 5.64, and standard deviations ranging from .58 to .75. As in previous research (Mobley & Locke, 1970; Evans, 1969; Pulakos & Schmitt, 1983; Humphrys, 1981), subjects appeared to rate all the work values as important, and did not appear to differentiate greatly among them. Moderating effects are more difficult to detect in a homogeneous population, as insufficient variation exists in individual differences to provide a good test.

In spite of this somewhat homogeneous population, significant moderating effects of the importance of work values were found. All work values except the importance of contribution to society were found to moderate. There

were moderating effects detected between job characteristics and most of the achieved work values, and between job characteristics and internal work motivation and satisfaction with the job. There were only slight moderating effects, however, found between achievement of work values and job outcomes.

Correctional Nurses--How do they Compare?

Because correctional nurses often tend to work in somewhat limited roles and have particularly difficult working conditions, it was hypothesized that the mean values for job characteristics, achievement of work values, and job outcomes would be lower for the sample of correctional nurses than a larger comparative nursing sample. The comparative nursing sample consisted of several smaller samples of nurses who primarily worked in hospital settings.

Except for job feedback, achievement of responsibility, and satisfaction with the job, the mean values for the correctional nurses' sample were all lower than those for the comparative sample. Of these, the differences between skill variety, achievement of meaningful work, achievement of contribution to society, and overall job satisfaction, were all significant.

It is also important to compare the values obtained from the two nursing samples with the JDS Professional and Technical Survey (Hackman & Oldham, 1980) (see Appendix C-1). All of the job characteristics for the two nursing samples are much lower than in the JDS sample except for task significance which is similar in all three samples. A relatively high value for task significance is consistent with the findings of Roedel and Nystrom (1988) and Joiner et al. (1982), who both found their nursing samples to have higher task significance than in the JDS sample. They also found task identity to be the lowest task characteristic in their sample and lower than in the JDS sample, and this is consistent with the results for both the correctional nurses and the larger nursing sample. Roedel and Nystrom's (1988) findings that skill variety was also relatively high for nurses is consistent with the results found in the larger nursing sample, but is not consistent with the results found in the correctional nurses' sample.

The comparatively lower ratings for nursing in general are not surprising given the current level of dissatisfaction in the nursing profession resulting from, among other things, the limited, task-focused role. The results would suggest that health care administrators

should be looking at nurses' jobs to determine whether aspects of their jobs can be changed to provide more identity or other job characteristics in order to improve job outcomes.

The even lower ratings for correctional nurses suggest that correctional administrators should similarly be looking at nurses' jobs to determine whether aspects of their jobs can be changed again in order to improve job outcomes.

In this study, task identity and skill variety were particularly low for nursing staff. An expanded role for nursing where nurses are for example involved in health teaching, health promotion and counselling, will allow nurses the opportunity for greater use of their skills and consequently increased skill variety, as well as greater task identity as they would be engaging in less fragmented tasks. This will likely provide nurses with more job feedback as they will be able to evaluate the effects of their intervention, as well as increased task significance as they engage in roles that can potentially influence and impact on others' lives.

Functioning in an expanded role should then result in greater achievement of work values. This should affect the achievement of meaningful work and contribution to society which were particularly low with

this sample, as well as the achievement of other values such as responsibility, sense of achievement, and influence over work. The increases in achievement of work values will subsequently result in improved job outcomes.

The overall job satisfaction for the correctional nursing sample was significantly lower than for the larger nursing sample. On examination of the various facets of job satisfaction comprising the overall satisfaction measure (see Appendix C-2), it is noted that satisfaction with pay (3.81) and satisfaction with promotions (4.30) are particularly low. As overall satisfaction is an average of the five facet satisfactions, overall job satisfaction is subsequently low as well.

As nurses' salaries are determined by the Ontario government based primarily on the market value for nurses, it is unlikely that nurses' salary and satisfaction with salary will improve significantly in the short term. It is also unlikely that nurses' satisfaction with promotions will increase appreciably in the near future, as bargaining unit promotions in the Ontario government are based primarily on interview performance, and often experienced candidates who may not

do well in an interview, tend to resent the process, and consider it unfair.

Consequently, aspects of job satisfaction which can be influenced should be, in order to improve overall satisfaction. Satisfaction with the work is one aspect of overall satisfaction that could be influenced. If nurses were to function in expanded roles with increased skill variety, feedback, identity and significance, they would experience the achievement of work values resulting in greater satisfaction with the work and subsequently greater overall job satisfaction. As all job outcomes in this study were influenced by job characteristics and achievement of work values, an expanded role for nurses should result in increased internal work motivation and satisfaction with the job as well.

In summary, the mean values for several job characteristics, achievement of work values, and job outcomes were comparatively low for this population of correctional nurses. In order to improve job outcomes for these nurses, they should be encouraged to function in expanded nursing roles. This will allow nurses the opportunity to experience more of the five job characteristics leading to the achievement of work values and subsequent increased internal work motivation and job satisfaction.

Limitations of the Study

The limitations of this study must be addressed.

The findings were particular to this population and to the time when the data were collected, and cannot necessarily be generalized to another population.

The design of the study was cross-sectional and consequently causality could not be determined. The cross-sectional design resulted in findings that were measured across individuals as opposed to within individuals. A longitudinal design would be necessary to determine the impact of changes in task characteristics on individuals, and an experimental design to determine causality.

In order to do a multiple regression analysis, it is preferable to have at least 10 times the number of people (sample size) as there are predictors. In some of the moderating variable analyses, there was a greater number of predictors than would be recommended, and a larger sample would consequently have been desirable.

In this particular sample, most subjects appeared to rate the importance of values as all being very high. A more heterogeneous population with respect to importance of work values would have been preferable in order to

investigate fully the importance of these work values as moderating variables.

Although the measures used in this study generally have well established reliability and validity, some limitations need to be mentioned. Hackman and Oldham (1980) state that far more validity studies are required to ensure that the JDS is measuring what it is supposed to be measuring. The job characteristics are not independent of one another, and positive intercorrelations among job characteristics could possibly reflect problems in how they are measured in the JDS. The job characteristics theory states that growth satisfaction should result from jobs high in motivating potential, but satisfaction with work, and not growth satisfaction was measured in this study.

In addition, the importance and achievement of work values as well as satisfaction with the job were all measured with single item scales. Generally speaking, longer scales are more reliable.

Finally, there was no measure of the objective job characteristics, and it was not possible to determine whether results were affected by common method variance, and to what extent other factors entered into the job characteristics-job outcome relationship.

Implications for Further Research

The results of this study would indicate the need for further research exploring the use of work values in the job characteristics-job outcome relationship. This study provided support for the achievement of work values as mediators, and the importance of work values as moderators in the job characteristics-job outcome relationship, and further research replicating this study would be indicated. All of the work values selected in this study appeared to have some significance, so their continued use in further research would seem appropriate.

The model should be tested with other populations to determine its validity in other settings where job characteristics and personal and other factors vary from those in this population. In particular, this population was somewhat homogeneous, and it would be important to test the moderating effects of importance of work values with a more heterogeneous population.

A larger sample in future research would be desirable, given the large numbers required to execute adequately the statistical analyses.

Future research might also employ a longitudinal design in order to test the effects of a change in the job design on the achievement of work values and job outcomes.

Although the reliability and validity of all measures used were fairly well established, the use of comparative measures would be warranted. Specifically, it would be interesting to compare the results using the measures of satisfaction with work, as well as Hackman and Oldham's (1976) growth satisfaction measure.

It was argued earlier that the total importance of values might be similar to a measure of growth need strength, and that the total of achieved values might be similar or even preferable to the use of the critical psychological states. Such a comparison was beyond the scope of this study, but given the significance of the importance and the achievement of work values in this research, further research comparing these measures with growth need strength and the critical psychological states would be warranted.

It is well recognized that other factors enter the job characteristics-job outcome relationship, and further research should employ the job rating form or other similar measure to compare the objective and perceived job characteristics. Although to date there has been no model developed that adequately accounts for the effect of the organizational environment on the job characteristics-job outcome relationship, future research

might attempt to incorporate the influence of these other macro factors.

Implications for Correctional Nursing

The results of this study have significant implications for correctional nursing. Changes to the nursing role based on these results would most certainly benefit correctional nurses, but in addition, would also benefit the ministry and its inmates.

Correctional nurses for a variety of reasons have a particularly difficult job, and experience considerable job dissatisfaction. Many job factors in correctional nursing are difficult to influence, but the design of the job is one major aspect of correctional nursing that could be changed. The results of this study have indicated that redesigning the job to include more skill variety, task identity, task significance, autonomy and feedback, would likely result in the achievement of work values and increased motivation and satisfaction.

An expanded role for correctional nurses that moves away from a traditional medication administration and first aid treatment focus, to a role where health teaching, health promotion, and counselling are stressed, will allow nurses to experience more of each of the five job characteristics. Nurses should subsequently feel

better about what they are doing, experiencing more achievement of several work values such as meaningful work, responsibility, contribution to society, and sense of achievement. They should also experience, subsequent to the achievement of work values, greater satisfaction and motivation, which should also lead to greater morale within the health units, and within the total nursing population of the ministry.

The redesign of the job will have implications not only for nursing, but for the ministry as well. An expanded role for nurses would result in more effective utilization of nurses' skills and abilities and consequently would be of more benefit to the ministry. A more satisfied nursing population will result in less turnover, and decreased recruiting and orientation costs. Greater nursing satisfaction generally will help to improve the developing image of correctional nursing, and will certainly assist in recruiting new nurses. In addition, the promotion and communication of an expanded correctional nursing role could be used as part of an overall promotion and recruitment program.

Finally, an expanded role for nurses will benefit the recipient of care, in this case, the inmate. The ministry has as its goal not only to detain inmates and provide security, but to assist inmates in meeting their

rehabilitative and treatment needs. The inmate population generally has a multitude of needs, and although not all inmates are receptive to assistance which attempts to help them to make the required changes to meet these needs, a significant proportion of the population is, and can benefit from this assistance. A nursing focus on health teaching, health promotion and counselling will most definitely assist in meeting the existing gap between inmate needs and the provision of services to meet those needs.

The move to an expanded role in nursing, although beneficial, may not be easy. Not only would there likely be resistance from correctional administrators, but it is likely there would also be resistance from correctional nurses. It is noted that the average age of the correctional nurse is between 50 and 55 years, and that many of the nurses have worked in the organization for a significant number of years (see Table 1). These nurses have also done things a certain way for a significant number of years, and may be less than open to suggestions that there are in fact, alternative ways of doing things. Perhaps the first step in introducing role changes would be the identification of a change theory in order to plan for, and to assist in the actual implementation of the change.

One of the greatest resistances to an expanded nursing role would likely be that of insufficient time or nursing manpower. Ideally, additional nursing resources would most definitely be desirable in the correctional system. With international, national, provincial and nursing regulatory bodies and governments requiring a change in health care focus to health promotion and disease prevention, it may be that more dollars will eventually have to be allocated to meet these mandates.

On the other hand, there are ways in which correctional nursing could change to allow more time for functioning in an expanded role. For example, correctional nurses are typically inundated with non-nursing functions such as clerical and housekeeping tasks. They also engage in a lot of practices which could be streamlined or eliminated, and their over-documentation is probably the best example. In addition, they have traditionally been involved in a large number of non-nursing practices such as decision-making concerning inmates wearing their own shoes, shaving their beards, having special blankets, etc., which should be eliminated. Finally, nurses have a philosophy of promoting self-care for inmates, but are only in the beginning stages of implementing this philosophy. In institutions where self-care has been implemented,

however, considerable time has been freed up for nurses to involve themselves in other nursing functions. The potential for health teaching and health promotion combined with self-care in the ministry is significant.

In summary, an expanded role for correctional nurses could potentially benefit the nurses, the ministry and the inmates. Any change to the role, however, would undoubtedly be accompanied by resistance, and the identification of a change theory to assist in the implementation would be essential. In order to implement an expanded role, additional nursing time would be necessary, but the elimination of several traditional non-nursing functions and practices, and a move towards self-care for inmates will enable nurses to have time to function in an expanded role.

The implementation of any change can be difficult, but the potential benefits of an expanded role for correctional nursing would certainly make this change most worthwhile.

SUMMARY AND CONCLUSION

Summary of the Study

The recruitment and retention of nursing staff have been considerable problems in North America over the last several years, requiring health care administrators to focus on conditions in nursing and to develop alternatives that increase the attractiveness of nursing as a profession. These problems are also crucial to correctional nursing where the recruitment and retention of nurses are even more difficult, complicated by such factors as a poor image of correctional nursing, the specific nursing qualifications required, the difficult clientele, and the limited role of the correctional nurse.

Job satisfaction is a significant factor in the retention as well as the recruitment of nurses, and is also important because of its motivational properties and its influence on productivity. Job satisfaction and other job outcomes have for many years been investigated in terms of how these outcomes relate to the design of the job. Simplified jobs were believed to maximize job outcomes during the Scientific Management era. This moved to a focus on expanded or enriched jobs, and was

later followed by attention to individual responses to the design of the job.

The purpose of this study was to explore how the design of the job influenced job outcomes for a sample of correctional nurses. Could the job be designed such that nurses would experience the achievement of certain work values leading to satisfaction and motivation, and was the response to the design of the job influenced by the importance of these work values to individual nurses?

A survey study was designed to answer these questions for a population of nurses working in the provincial correctional system in Ontario. Data were collected through the administration of a questionnaire to 192 Registered Nurses in the Ministry of Correctional Services. This correlational survey had a 63% response rate, and 61% of those questionnaires were used. The sample was composed of somewhat older nurses with considerable experience in correctional nursing.

Data analysis through Pearson correlation and stepwise multiple regression revealed that job characteristics and job outcomes were positively correlated, with job characteristics predicting job outcomes. In addition, job characteristics were positively correlated with, and predicted achievement of

work values. The achievement of work values were also positively correlated with, and predicted job outcomes.

The achievement of work values was found to mediate the relationship between job characteristics and job outcomes, and the importance of work values was found to moderate the job characteristics-job outcome relationship and the job characteristics-achievement of work values relationship. The importance of work values had only very slight moderating effects, however, on the achievement of work values-job outcome relationship.

Finally, T-tests indicated the mean values of several variables measured in this study were significantly lower than the mean values for these same variables measured from a larger nursing sample.

Conclusion

From the evidence presented, it would appear that increased internal work motivation and job satisfaction are related to jobs high in motivating potential. If a job can be designed to include skill variety, task significance, identity, autonomy and feedback, an individual who feels certain intrinsic work values are important, is more likely to experience the achievement of these values, resulting in greater motivation and satisfaction.

In this sample, the measures of job characteristics, achievement of work values, and job outcomes were low when compared with a professional and technical sample and a larger nursing sample. Since the importance of intrinsic work values were all high for this sample, increasing the motivating potential by adding skill variety and other job characteristics to the job will most likely result in greater motivation and satisfaction for this sample.

A number of factors, many of which cannot be significantly influenced, contribute to correctional nurses' dissatisfaction. Consequently, those factors which can be influenced, such as the design of the job, should most definitely be addressed. The redesign of correctional nurses' jobs will result not only in greater satisfaction and motivation for nurses, but in more effective use of their skills and abilities, and in a greater nursing contribution to the ministry's goal of meeting inmates' rehabilitative and treatment needs.

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APPENDIX A

CORRESPONDENCE RE: DISTRIBUTION OF THE QUESTIONNAIRE



Ministry of
Correctional
Services

2001 Eglinton Ave. E.
Scarborough, Ontario
M1L 4P1

750-3350

RECEIVED

MEMORANDUM TO: Ms Kathy Tettmar
Coordinator, Health
Care Services

FROM: Anu Reitav
Project Officer
Research and Evaluation Unit

DATE: April 5, 1988

SUBJECT: RESEARCH PROJECT ON WORK VALUES
AND THE JOB-CHARACTERISTIC
JOB-OUTCOME RELATIONSHIP.

APR 07 1988

CHIEF OF NURSING SERVICES

As I indicated during our telephone conversation last week, I have a few suggestions to make concerning your research study on work values and the job-characteristic job-outcome relationship for correctional nurses. Although you stated the difficulty of incorporating any changes in the design of your research project, I strongly urge you to give them consideration and/or describe the limitations of your study in any reports that follow. Outlined below are the specific areas that are worthy of consideration.

- 1) You are investigating the relationship between job complexity and job satisfaction for nurses employed within the Ministry of Correctional Services. The study, however, does not include factors that are significant and unique to nurses working within correctional settings. A significant body of literature exists that identifies concern for personal safety, for example, as a factor affecting the job satisfaction of correctional employees - one which would be less likely to be important to nurses working within hospitals. In order to enhance the validity and applicability of this research to the Ministry, factors specific to work within a correctional environment/setting should be considered.
- 2) In your proposal you indicate the potential benefit to the Ministry from the reduction of the varied costs associated with job turnover and absenteeism. The proposal however, does not indicate an understanding, or the extent, of the problem of job turnover or absenteeism for correctional nurses. Furthermore, the current research design will not enable you to measure the extent of job turnover and/or absenteeism. To address these issues, separate questionnaires could be sent to each head nurse/health care coordinator to be completed with reference to their staff regarding the number of days absent from work and the number of nurses changing jobs.

Ms Kathy Tettmar

Page 2

April 5, 1988

- 3) It is unclear from the proposal which specific sections of the questionnaire would be included in the final instrument and distributed to correctional nurses for completion.
- 4) The research instrument does not include questions that would indicate the significance of the correctional environment upon the job satisfaction levels of correctional nurses. As indicated above, to enhance the relevance and the validity of the results to the Ministry, factors such as concern for personal safety should be included under the section labelled "Importance of Work Values".
- 5) The study sample consists of 230 Registered Nurses within the Ministry of Correctional Services. A sampling strategy should be considered that controls for the following differences:
 - urban vs. rural;
 - jails/DC's vs. CC's;
 - adult vs. young offender facilities;
 - treatment centres (GATU, OCI) vs.
 - other correctional institutions.
 - etc.
- 6) Consultation with John Walter, Director, Human Resources Management, should be arranged to determine whether the union would have any objections to the proposed methodology.

Overall, the research in its present form is acceptable from our point of view with the following proviso. A cover letter must be attached to each questionnaire indicating the following: participation in the study is voluntary; and, the research study is being conducted in accordance with your degree requirements and is not an official Ministry research initiative. This inclusion should not jeopardize the expected response rate for your study.

I hope these suggestions are of some use to you and wish you every success with this interesting endeavour. If I can be of any further assistance, please do not hesitate to contact me.



Anu Reitav

QUESTIONNAIRE DISTRIBUTION AND RETURN FORM

INSTITUTION: _____

Number of questionnaires distributed: _____

Number of questionnaires collected: _____

Please return sealed envelopes by April 11, 1988 to:

Kathy Tettmar
Chief of Nursing Services
Offender Programming Branch
2001 Eglinton Avenue East
Scarborough, Ontario
M1L 4P1



Memorandum To: Health Care Coordinators/
Head Nurses

From: Kathy Tettmar

Date: March 28, 1988

Subject: Job Survey

As some of you are aware, I am presently completing my Master of Education degree with specialization in administration at Brock University, St. Catharines, Ontario. I am looking at correctional nurses' jobs and their satisfaction, and am asking for your assistance in distributing and collecting the enclosed questionnaires to all N2 Generals, N3 Generals and PM13's working in your institution (agency nurses excluded). PM14's and PM15's, are excluded from the sample as I am looking at nurses clinical as opposed to management responsibilities.

Would you please distribute to each of your nurses (N2 and N3 Generals, PM13's) one questionnaire, one memorandum and one envelope, and ask them to return the questionnaire to you in the sealed envelope by April 11, 1988. Although the completion of the questionnaire is not mandatory, I would very much appreciate your assistance in having as many nurses as possible complete and return this questionnaire.

Would you please complete the questionnaire distribution and return form, and forward the sealed envelopes on to me. I have asked for the identification of the institution, so that I may follow up on areas where I may not have received a response.

Please do not hesitate to call should you have any questions or concerns, or require additional material.

Thank you ever so much for your assistance.

A handwritten signature in cursive script that reads 'Kathy Tettmar'.

Kathy Tettmar



Ministry of
Correctional
Services

2001 Eglinton Ave. E.
Scarborough, Ontario
M1L 4P1

Memorandum To: Registered Nurses
Ministry of Correctional Services

From: Kathy Tettmar

Date: March 28, 1988

Subject: JOB SURVEY

I am presently completing my Master of Education degree with specialization in Administration at Brock University, St. Catharines, Ontario. My thesis involves looking at correctional nurses' jobs, and whether these jobs result in job satisfaction for them. Although I am doing the study as a student, I am very interested in this subject and am optimistic that my results will assist me in influencing nurses' jobs and job satisfaction within the ministry.

I am asking for your cooperation in completing an anonymous questionnaire developed at Brock University. The questionnaire will take from thirty minutes to one hour to complete and contains questions pertaining to organizational behaviour, work outcomes and personal factors. Although I will be looking at only some of the confidential data analysis at the present time, I may in the future look at other aspects of the job in order to assist me in determining organizational areas which require improvement. For this reason, I would prefer the completion of the entire questionnaire, but should you be uncomfortable with any particular section, it may be omitted.

As I am looking at nurses' clinical as opposed to management responsibilities, I am limiting my sample to N2 Generals, N3 Generals and PM13's. For those of you who are in a N3 General or PM13 position, may I ask that you attempt as best as you can to respond to the questionnaire on the basis of your clinical functions only.

Registered Nurses
March 28, 1988
Page two

I ask that you complete this questionnaire, place it and seal it in the envelope provided, and return it to your Head Nurse or Health Care Coordinator by April 11, 1988. These will be returned to me and I will forward the sealed envelopes on to Brock University for confidential data analysis.

I am anticipating completing my thesis over the summer, and will certainly share the results with you following that.

Thank you very much for your cooperation.

A handwritten signature in cursive script, reading "Kathy Tettmar". The signature is written in dark ink and is positioned above the printed name.

Kathy Tettmar



Memorandum To: Superintendents

From: Kathy Tettmar

Date: March 28, 1988

Subject: Nursing Job Survey

In order to complete my Master of Education degree at Brock University, St. Catharines, Ontario, I am asking for the cooperation of Registered Nurses within the ministry in completing a questionnaire. This anonymous questionnaire has been developed by Brock University and contains questions pertaining to organizational behaviours, work outcomes and personal factors. My study involves nurses' jobs and their job satisfaction, so I will be looking at the confidential data analysis related to these variables. My research proposal has been reviewed and approved by Research and Evaluation of the Policy and Corporate Planning Branch.

I have sent questionnaires and instructions to head nurses/health care coordinators, and have asked for their assistance in distributing and collecting the completed questionnaires. The questionnaire takes from thirty minutes to one hour to complete.

I anticipate completing my thesis over the summer and will be pleased to share my results with you following that.

Thank you for your cooperation, and please do not hesitate to call should you have questions or concerns.

A handwritten signature in cursive script that reads 'Kathy Tettmar'.

Kathy Tettmar

cc Dr. P. W. Humphries
Mr. Neil McKerrell
Regional Directors

APPENDIX B
THE QUESTIONNAIRE

YOUR JOB

Listed below are a number of statements which could be used to describe a job. Please indicate whether each statement is an accurate or inaccurate description of your job. Be as objective as you can regardless of whether you like or dislike your job.

HOW ACCURATE IS THE STATEMENT IN DESCRIBING YOUR JOB?

1	2	3	4	5	6	7
/	/	/	/	/	/	/
Very inaccu- rate	Mostly inaccu- rate	Slightly inaccu- rate	Uncertain	Slightly Uncertain	Mostly Accurate	Very Accurate

- ___ The job requires me to use a number of complex or high-level skills.
- ___ The results of my activities cannot be seen.
- ___ Just doing the work required by the job provides many chances for me to figure out how well I am doing.
- ___ The job is quite simple and repetitive.
- ___ This job is one where a lot of other people can be affected by how well the work gets done.
- ___ The job denies me any chance to use my personal initiative or judgement in carrying out the work.
- ___ The job lets me do "identifiable" work.
- ___ The job itself provides very few clues about whether or not I am performing well.
- ___ The job gives me considerable opportunity for independence and freedom in how I do the work.
- ___ The job itself is not very significant or important in the broader scheme of things.

CORE JOB CHARACTERISTICS

SOURCE: Job Diagnostic Survey
Hackman and Oldham, 1975.

FEELINGS ABOUT THE JOB

Now please indicate how YOU PERSONALLY FEEL about your job. Use the scale below to show how much you agree with each statement.

1	2	3	4	5	6	7
/	/	/	/	/	/	/
Strongly Disagree	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly

- ___ My opinion of myself goes up when I do this job well.
- ___ I feel a great sense of personal satisfaction when I do this job well.
- ___ I feel bad and unhappy when I discover that I have performed poorly.
- ___ My own feelings are generally not affected much one way or the other by how well I do on this job.

INTERNAL WORK MOTIVATION

SOURCE: Job Diagnostic Survey
Hackman and Oldham, 1975.

FACETS OF LIFE SATISFACTION

Job satisfaction, family satisfaction, and satisfaction with free time activities are components of life satisfaction. Compare all four and state how satisfied you are with each:

How satisfied are you...

	Very Satisfied		Somewhat Satisfied			Not very Satisfied	
	7	6	5	4	3	2	1
_____ with your job?	/	/	/	/	/	/	/
	/	/	/	/	/	/	/

SATISFACTION WITH JOB

SOURCE: Iris and Barrett, 1972.

JOB SATISFACTION

This measure differentiates between various types of satisfaction: with the work itself, with pay, with promotions, with the supervisor, and with the co-workers.

		7	6	5	4	3	2	1	
WORK:	Exciting	/	/	/	/	/	/	/	Dull
	Unpleasant	/	/	/	/	/	/	/	Pleasant
	Challenging	/	/	/	/	/	/	/	Unchallenging
	Satisfying	/	/	/	/	/	/	/	Unsatisfying
PAY:	Rewarding	/	/	/	/	/	/	/	Unrewarding
	Large	/	/	/	/	/	/	/	Small
	Wrong	/	/	/	/	/	/	/	Right
	Positive	/	/	/	/	/	/	/	Negative
PROMOTIONS:	Unjust	/	/	/	/	/	/	/	Just
	Reliable	/	/	/	/	/	/	/	Unreliable
	Positive	/	/	/	/	/	/	/	Negative
	Reasonable	/	/	/	/	/	/	/	Unreasonable
SUPERVISOR:	Near	/	/	/	/	/	/	/	Distant
	Sincere	/	/	/	/	/	/	/	Insincere
	Unfriendly	/	/	/	/	/	/	/	Friendly
	Qualified	/	/	/	/	/	/	/	Unqualified
CO-WORKERS:	Careful	/	/	/	/	/	/	/	Careless
	Loyal	/	/	/	/	/	/	/	Disloyal
	Pleasant	/	/	/	/	/	/	/	Unpleasant
	Boring	/	/	/	/	/	/	/	Interesting

OVERALL JOB SATISFACTION

SOURCE: Hatfield, Robinson, and Huseman, 1975.

IMPORTANCE OF WORK VALUES

Below are listed several work values. How important are they to you?

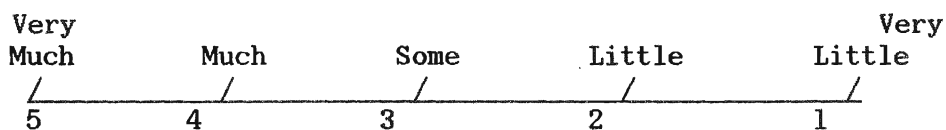
Very Important	Important	Somewhat Important	Somewhat Unimportant	Unimportant	Very Unimportant
/	/	/	/	/	/
1	2	3	4	5	6

- _____ Having responsibility
- _____ A sense of achievement in your work
- _____ Influence over your work
- _____ To do meaningful work
- _____ Use of your ability & knowledge
- _____ Independence in work
- _____ Contribution to society

SOURCE: Elizur, 1984; Hunt and Saul, 1975

ACHIEVEMENT OF WORK VALUES

Below are listed several job factors. How much of each do you CURRENTLY EXPERIENCE in your job?



- ___ Exercising responsibility
- ___ Achievement through work
- ___ Influence over your work
- ___ Doing meaningful work
- ___ Use of your abilities and knowledge
- ___ Independence in work
- ___ Contribution to society

SOURCE: Elizur, 1984; Hunt and Saul, 1975

PERSONAL & ORGANIZATIONAL DEMOGRAPHIC DATA

305. Classification: _____

306. Name of Institution: _____

307. Type of Employment: (check one in each section)

a) _____ classified (or regular)
_____ unclassified (or casual or contract)

b) _____ full-time
part-time

308. Education: (check highest)

_____ diploma
_____ bachelor degree
_____ masters degree

309. Age: _____ less than 25 25-30 31-35 36-40 41-45
 46-50 51-55 56-60 61 +

310. Sex:

male female

311 Marital Status

_____ single _____ married _____ divorced

312. Number of Children

Experience

313. years in present position

314. years in present institution

315. _____ number of positions/jobs held during those years in this institution

316. years' overall experience in nursing

317. years of experience in unrelated work

Thank you !

APPENDIX C
ADDITIONAL RESULTS

Comparison Among Study Sample,
Nursing Sample, and Professional
and Technical Sample

	Study Sample		Nursing Sample		Professional & Technical*	
	M	S.D.	M	S.D.	M	S.D.
<hr/>						
<u>Job Characteristics</u>						
Skill Variety	4.73	1.33	5.15	1.31	5.4	1.0
Task Identity	4.48	1.21	4.53	1.24	5.1	1.2
Task Significance	5.50	1.60	5.63	1.14	5.6	0.95
Autonomy	5.15	1.34	5.17	1.23	5.4	1.0
Feedback	4.68	1.22	4.65	1.30	5.1	1.4
MPS	126.32	62.61	128.67	62.90	154	55
<u>Job Outcomes</u>						
Internal Work						
Motivation	5.85	0.76	5.91	0.70	5.8	0.65
Overall Job						
Satisfaction	4.66	0.64	4.90	0.81	4.9	0.99

* Hackman and Oldham, 1980

**Means and Standard Deviations
of Facets of Job Satisfaction**

<u>Facet Satisfaction</u>	<u>Mean</u>	<u>Standard Deviation</u>
Satisfaction with work	4.88	0.88
Satisfaction with pay	3.77	1.31
Satisfaction with promotions	4.28	1.17
Satisfaction with supervisors	5.05	1.27
Satisfaction with co-workers	5.23	1.01
Overall job satisfaction	4.63	0.64